Breaking Ground

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA

SEPTEMBER/OCTOBER 2018

FINANCING CONSTRUCTION 2018

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

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

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First National Bank, Ross Township Branch
Image courtesy Dick Building Co. and First National Bank
Photo by Roy Engelbrecht

PUBLISHER'S NOTE

It was not by accident that we chose to focus on financing for construction in the September/October edition of BreakingGround. It's been ten years since the Earth shifted under our feet for a couple of weeks (depending on how quickly this gets printed, it may be exactly the tenth anniversary of Lehman Brothers Day.)

In most ways, the result of the financial crisis has been less catastrophic than feared at the time things were unraveling. Retirement accounts were replenished for those who hung in the markets. The massive overhanging inventory of foreclosed homes has become a shortage of homes for sale. The banking industry has been changed by more regulation (more on that inside), but is still a large, profitable business. Most of the dire predictions about the damage from the financial crisis proved to be overblown. The psychological scars, however, seem to have been underestimated.

I'm old enough to have been raised by children of the Great Depression and I spent enough time with my parents' parents, aunts and uncles to have observed the lasting impact inflicted by that economic trauma. One of my uncles died with tens of thousands of dollars stashed away in his home. My grandmother washed her aluminum foil and hung it on the clothesline to dry. No one ever left food on their plate uneaten, even at the holidays.

For that generation, who lived through runs on the bank and 25 percent unemployment, there was always going to be economic anxiety lingering in the backs of their minds. That was true of my parents' generation too, but to a lesser degree. The post-World War II boom helped give the people born in the 1930s and 1940s a sense that the U.S. economy would always provide opportunity. And, of course, we Baby Boomers took that sense of economic optimism (or perhaps entitlement) to an opposite extreme from our grandparents.

That sense of optimism may not have translated to our children.

While analysts and economists were predicting that the Great Recession was going to wipe out generational wealth and keep millions from retiring, they were overlooking the impact of all the news on the generation not yet in the working economy. There is growing evidence that having seen the financial collapse unfold in real time and listened to their parents' extreme anxiety in 2008, the Millennial generation became gun shy about investing.

My older daughter called me from her University of Richmond laboratory during the summer of 2008, as stories about the housing crisis unfolded, to ask if we were going to lose our house. I had to reassure her that most people, including her parents, weren't going to have their house foreclosed, and that home ownership was still a good thing. Sarah was never very interested in financial matters but she was taught to save her money and own a home when she could afford it. She has worked in a good career since graduating in 2009, and she had no college debt, but it's instructive to note that she and her husband just bought their first home six months ago.

Amy Broadhurst is a commercial real estate broker and vice president at CBRE. Like my daughter, Amy is well-educated and well-read. Unlike Sarah, she has devoted her education and career to business and finance; yet, Amy admits that experiencing the financial crisis two years out of college has made her unusually risk-averse. She spends her days helping companies invest in real estate but says that she is more comfortable knowing her money is safe in cash so that she has a safety net. Amy invests in the stock market – and she says she doesn't wash her aluminum foil – but does so with a sense of uncertainty that my grandmother would recognize. Her primal instinct is what if I lose my job?

These anecdotes, and the data that supports the Millennials' wariness of home ownership, surprise me a little, but they reflect the emotions that surround big personal financial decisions. Businesses are run by people too, but they are enterprises guided by objective decisions and cost/benefit analysis. Ten years after the financial crisis, there is evidence that business people remain spooked by what took place in the fall of 2008.

The Federal Reserve Bank interviews thousands of businesses for its quarterly Beige Book. It finds that business owners are extremely optimistic in their responses, professing overwhelmingly positive sentiments about the economy. At the same time, questions probing capital spending find that investment is lagging the optimism. Moreover, plans for investment and expansion are hitting a wall in 2020.

Fear is a powerful motivator. The fear generated by the financial crisis in 2008 created post-traumatic stress about the economy that goes largely undetected. If business owners don't want to risk facing the kinds of consequences they faced in 2008 again, how far out will they look to invest in their companies? If young people don't trust the stock market or fear for their jobs, what will their risk tolerance be for investing in the future? More importantly, if the future supply of capital for investing remains in the collective mattresses of the next generation, how will the economy grow?

I'm not writing to give a Doomsday prediction here. I am more keenly aware each year, however, that the optimism of my generation about the economic future of the country is not shared by our children. There are measures that can be taken to ease their anxieties. Enduring a recession that doesn't threaten the global financial system might help with that. So will the passage of time, assuming that their collective sense of job security improves with time.

Uncertainty is enemy of optimism. If, like me, you believe that optimism is one of the main ingredients of the American economy, perhaps we should consider how to make the younger generation feel what we did at their age: that anything is possible with hard work and innovation. If we can't reduce their anxiety, we can at least try to understand it.

Jeff Burd

REGIONAL MARKET UPDATE

Dollar Bank
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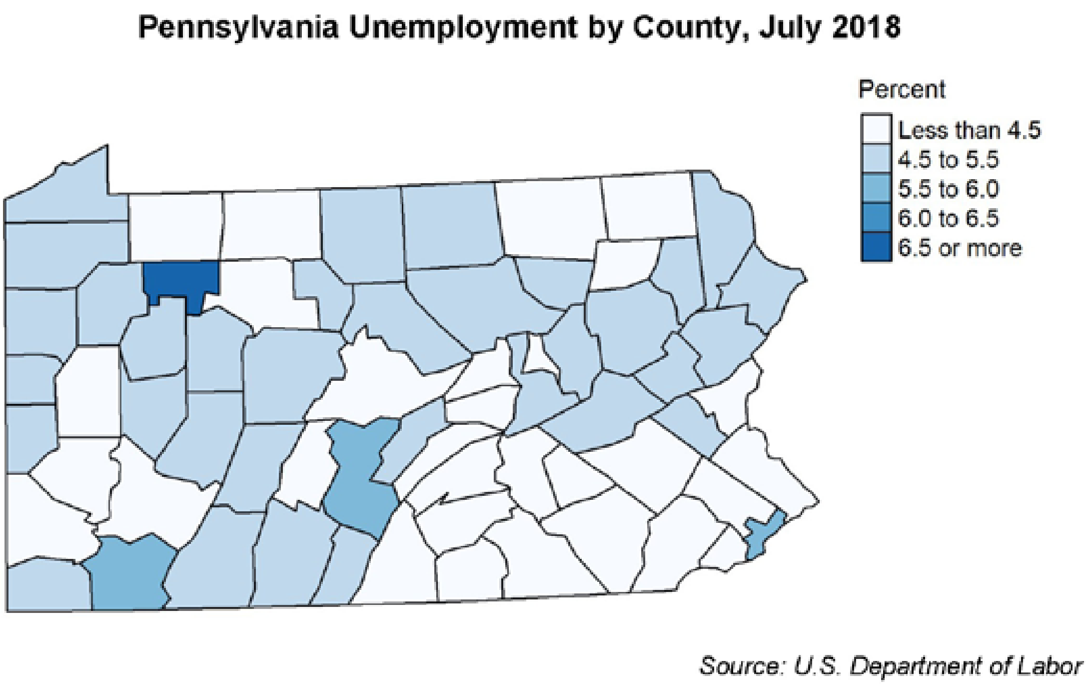
Mid-August reports from the U.S. Department of Labor and the Census Bureau paint a picture of economic strength in Pennsylvania and Pittsburgh. While a growing number of national economists are looking at a slowdown in 2019 or 2020, the outlook for Pennsylvania's economic drivers remains solid.

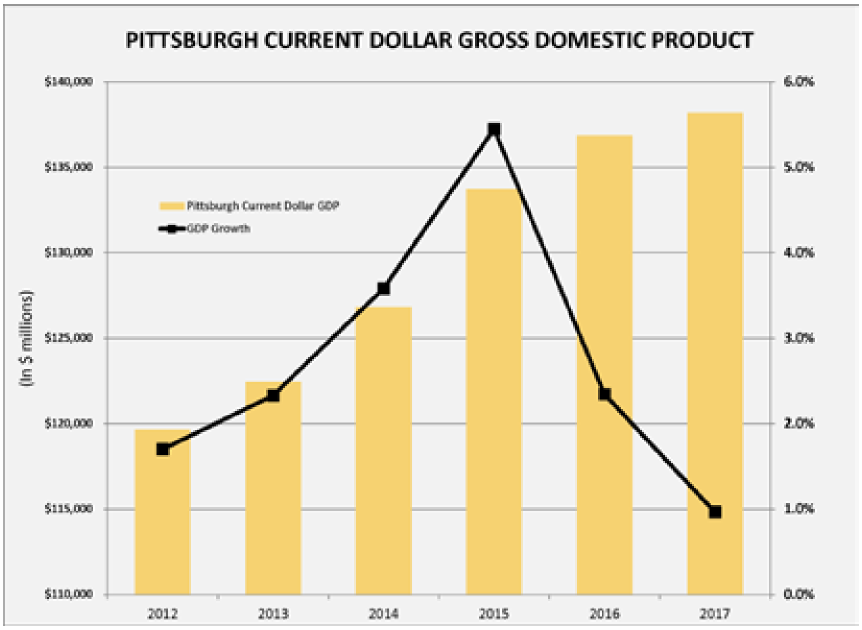
Final data on Pennsylvania's economy in 2017 found that the Commonwealth's gross domestic product (GDP) grew by 1.7 percent last year to $767.6 billion. Pittsburgh's share of that was 18 percent, reaching $138.2 billion last year. State-level data for 2018 showed Pennsylvania's GDP growing 1.1 percent during the first quarter alone, suggesting that the economy in the state was growing faster than that of the U.S.

Economic growth in Pennsylvania was matched by strong hiring, which dropped the unemployment rate to 4.2 percent, the lowest since 2007. Pittsburgh's unemployment rate also fell to 4.1 percent. Year-over-year hiring in Pittsburgh's seven-county metropolitan statistical area was up more than one percent, as employers have been adding between 11,000 and 15,000 jobs monthly for more than a year. One negative data point for Pittsburgh is the continuing decline in the workforce, as retiring workers slightly outpace the new hires. The upside of the statistic is that the turnover in workforce is driving the median age of a worker down significantly. That's a demographic trend that is overwhelmingly positive for future housing demand, tax revenue growth and school district enrollment.

One sector that is peaking in employment is technology. The number of workers in information technology and business services reached 103,400 in July, a new high for the region. Demand for these workers is coming from Pittsburgh's emerging robotics and artificial intelligence industries, software and financial services. Advances in several new technology sectors, including cyber security and immunology, should push the number of technology employees still higher.



Pennsylvania's unemployment rate of 4.2 percent in July 2018 was the lowest since July 2007. Image courtesy Wells Fargo Securities.



The impact of this steady, extended period of growing tech employment is seen in the higher wages and educational attainment data for Pittsburgh. In more practical terms, the surge in tech employment can be a strong attraction factor for other tech workers outside the region. Employment in technology has long since reached critical mass but the continued growth adds to the attraction of workers, who are assured that there are ample opportunities for jobs if their current job doesn't work out as expected.

An improving job market is driving demand for housing in Pittsburgh, although the market fundamentals are creating conditions that are squeezing affordability in certain types of housing.

The housing market in the region remains strong for sellers and slow for builders. When comparing January-July 2018 with the same time period in 2017:

- Closed sales are up 2.09 percent
- Closed sales volume is up 10.07 percent to $3,240,259,504
- Average sale price is up 7.82 percent to $194,074 in 2018
- Home listings are down 2.88 percent
- New home construction for sale was off 9.0 percent

The report on sales was released August 21 by West Penn Multi-List, Inc., which provides real estate information for 17 counties – Allegheny, Armstrong, Beaver, Butler, Cambria, Clarion, Crawford, Fayette, Greene, Indiana, Jefferson, Lawrence, Mercer, Somerset, Venango, Washington, and Westmoreland – in its service area. The majority of the activity is in the six-county metropolitan Pittsburgh market. New construction was tracked by the Pittsburgh Homebuilding Report.

Data confirms that demand for new homes continues to outstrip supply, a market reality that has not pushed more homeowners to sell or builders to increase construction volume. This trend has existed for at least five years since what could reasonably be called a recovery for the housing market. Its origins are more structural than driven by supply and demand.

For new construction, lot inventory and new development remain at depressed levels. Lenders have not regained an appetite for acquisition and development loans, even after regulations have eased. Land prices and an ever-increasing cost of development are also impediments to more subdivision activity.

The more surprising inventory constraint has been a shift in demographic behavior. Baby Boomers have shown a marked resistance to sell the home in which they raised their families, compared to previous generations. Improved health has added years to the physical ability to maintain a detached home. Better financial health has been a bigger factor, allowing Boomers to either pay for home maintenance or to have a second home without selling their primary residence. These trends exist at a national level but the latter trend is especially strong in Pittsburgh.

One trend that is not positive at the moment is the pace of inquiries at architectural firms. A majority of business development managers at the region's design firms report a slight slowdown in RFP activity since the beginning of summer. This runs counter to the national trend, so it bears watching to judge whether the region's owners/developers are beginning to slow down new activity or just tapping the brakes for a few months. Rising costs and a growing awareness of the industry's tight labor supply may be giving owners a reason to push projects off into the future. The fundamentals of the region's economy, however, suggest that any period of deferral will be short-lived.

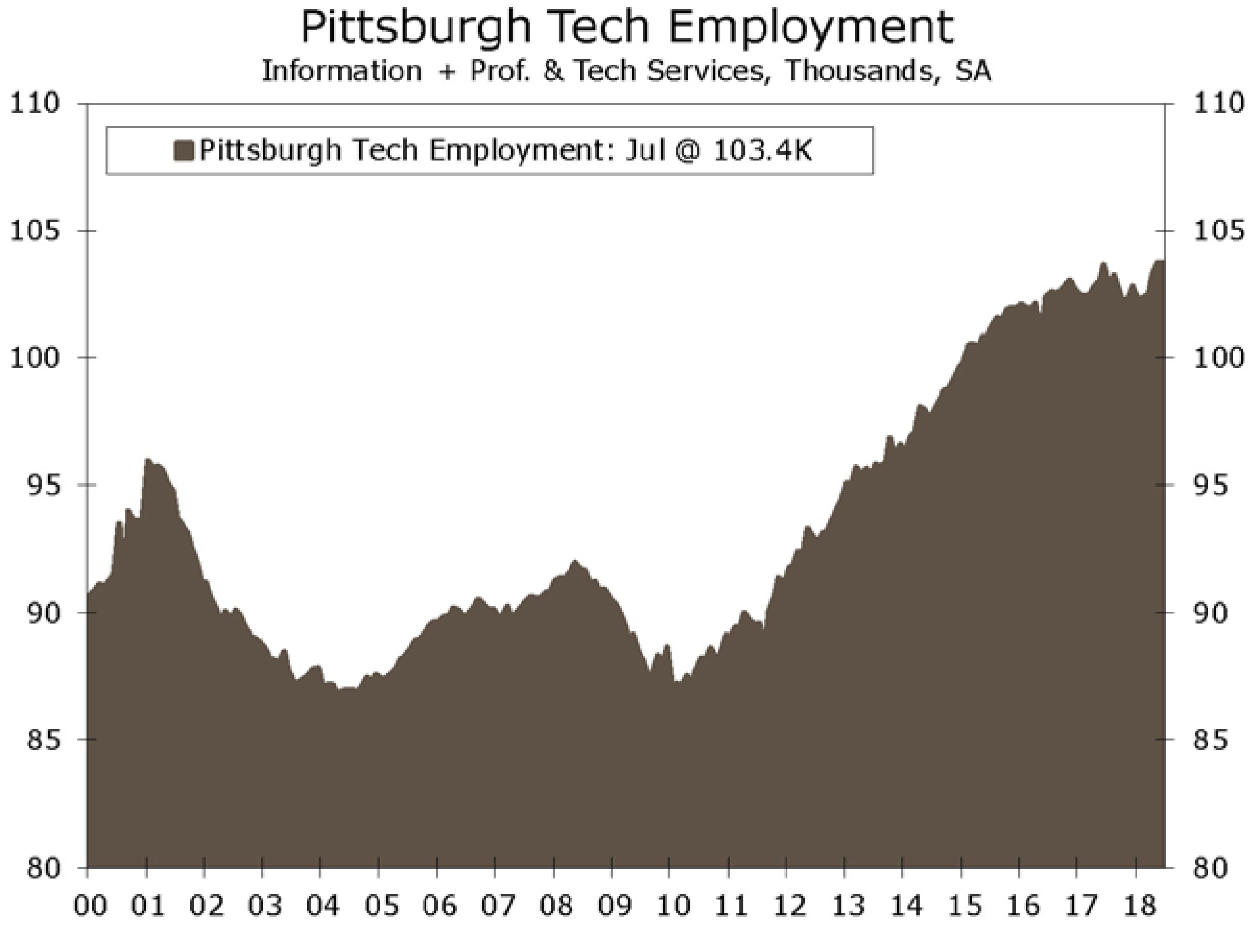
Construction activity through August was robust, matching or exceeding most year-to-date comparisons with 2017. Non-residential/commercial contracting was $3.57 billion through August 31, more than $700 million higher than for the same eight months in 2017. Residential spending lagged 2017 totals, primarily because of the reduced level of multi-family starts in the first eight months of 2018.

Industrial construction, primarily the Shell Franklin project, and healthcare construction were the strongest categories of construction through eight months. It's worth noting that the $700 million-plus under construction includes the new Allegheny Health Network's Wexford hospital but none of the new UPMC facilities. Adding to the higher activity level were K-12 construction, up 55 percent to $225 million, and office construction, which was slightly ahead of last year's level at $374 million.

The much-anticipated wave of hospital projects has begun to break. Ground was broken in mid-August for the Allegheny Health Network's (AHN) new $220 million hospital in Wexford, which Massaro/Gilbane is managing. AHN's main competitor, UPMC, is edging nearer to getting its $1.5 billion new hospital program underway. The $350 million Eye Institute at UPMC Mercy is scheduled to get underway in January 2019. UPMC's schedule now calls for the $190 million, 63-bed UPMC South hospital to start in May 2019, with the $750 million Cardiac and Transplant Hospital at UPMC Presbyterian getting underway the following month. The $250 million expansion of UPMC Shadyside and Hillman Cancer Center is not expected to start until the spring of 2020.

The impact of these major projects will be felt well into 2021, when three of the five new facilities are expected to be completed. The Presbyterian and Shadyside projects are slated for completion in 2023, with scheduled renovations at the existing Presbyterian University Hospital finishing up at the end of 2024.

Bidding activity for the fourth quarter of 2018 was not robust following the Labor Day holiday. In a busy market, bidding in October and November tends to be brisk, as owners try to take advantage of the



Employment in Pittsburgh's technology sector reached 103,400 in July.

appetite contractors have for building backlog ahead of the new year. The slow K-12 market may keep fall bidding slower than usual, along with the limits of architectural production in what has been an extended design boom. Those looking to take advantage of human nature by bidding projects near the end of the year may also find that the severely strained skilled labor market is producing less aggressive bidding. Contractor capacity is being stretched thin and most of the larger, high-profile projects still have to go to the subcontractor bidding market for many of the packages.

BENCHMARK	Jan-Aug 2018	Jan-Aug 2017
Total SFD units	1,380	1,268
Total SFA/Multi-unit	1,327	1,208
Total residential $$	$664.7 million	$711.9 million
Total non-residential $$	$3.57 billion	$2.85 billion
K-12 additions/renovations	$225.4 million	$144.1 million
Higher Ed construction	$107.6 million	$135.8 million
Hospital construction	$707.8 million	$93.2 million
Hotel construction	$29.4 million	$67.2 million
Industrial construction	$1.328 billion	$671.5 million
Office construction	$374.3 million	$372.7 million

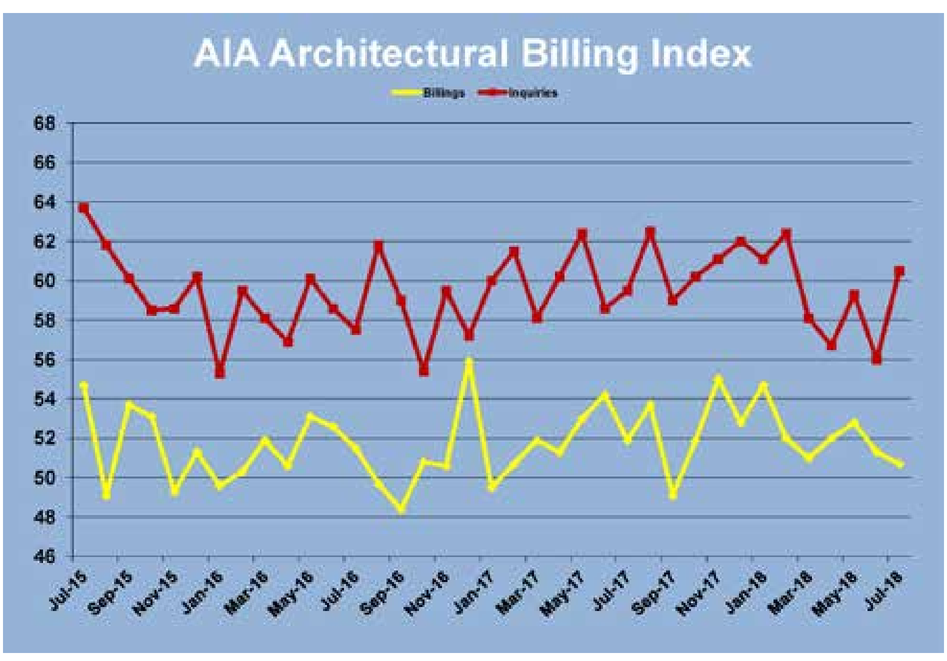
In addition to the hospital projects above, major office projects in Oakland, Pitt's first major construction project in years – the $80 million Scaife Hall expansion – and numerous commercial projects in the $20-to-$50 million range are in the queue for early 2019. Shell's Franklin project should hit peak labor usage mid-2019. A final investment decision and some of the early works construction at the PTT cracker site in Dilles Bottom is expected in 2019. Regardless of the state of the U.S. economy, the Pittsburgh construction market isn't looking at a slowdown any time in the next two years. BG

NATIONAL MARKET UPDATE

Fueled by the impact of the Tax Cuts and Jobs Act of 2017, the U.S. economy has shifted into a new gear of growth that belies the length of the business cycle. The tax cuts have lifted business spending and spurred investment, although not quite in the way that was advertised.

The Department of Commerce's second estimate of growth in the April-to-June quarter revealed an economy growing more rapidly, with gross domestic product (GDP) jumping 4.2 percent over the first quarter. That was an upward revision from the 4.0 percent first estimate. Business spending, specifically on software, led the categories of increased business investment. Second quarter growth was also helped by falling imports and a one-time boost in soybean sales that was meant to beat the retaliatory Chinese tariffs.

Consumer spending was also strong, although the August estimate was reduced to 3.8 percent growth from 4.0 percent. Two other August data points portend that the U.S. consumer will continue to support the economic growth in coming quarters.



July's AIA Architectural Billing Index remained above 50 for the tenth consecutive month.

The Conference Board Consumer Confidence Index increased in August, reaching its highest level in 18 years. The Index was at 133.4 (1985=100) in August, up from 127.9 in July.

"Consumer confidence increased to its highest level since October 2000 (Index, 135.8), following a modest improvement in July," said Lynn Franco, director of economic indicators at The Conference Board. "Consumers' assessment of current business and labor market conditions improved further. Expectations, which had declined in June and July, bounced back in August and continue to suggest solid economic growth for the remainder of 2018. Overall, these historically high confidence levels should continue to support healthy consumer spending in the near-term."

Earlier in August, the Commerce Department revised its estimate of the personal savings rate during the first quarter from 3.3 percent to 7.2 percent, citing a statistical error. The growing use of credit was becoming a concern to economists, who worried that consumers were using credit in place of exhausted discretionary income. That sort of activity late in a business cycle is an indicator that consumers are overextending, leaving them without a safety net for any unplanned expenses or recession. The first quarter savings rate was higher than the most recent high-water mark of 6.5 percent in 1990, suggesting that the pain of the 2008-2009 recession is prompting consumers to be better prepared.

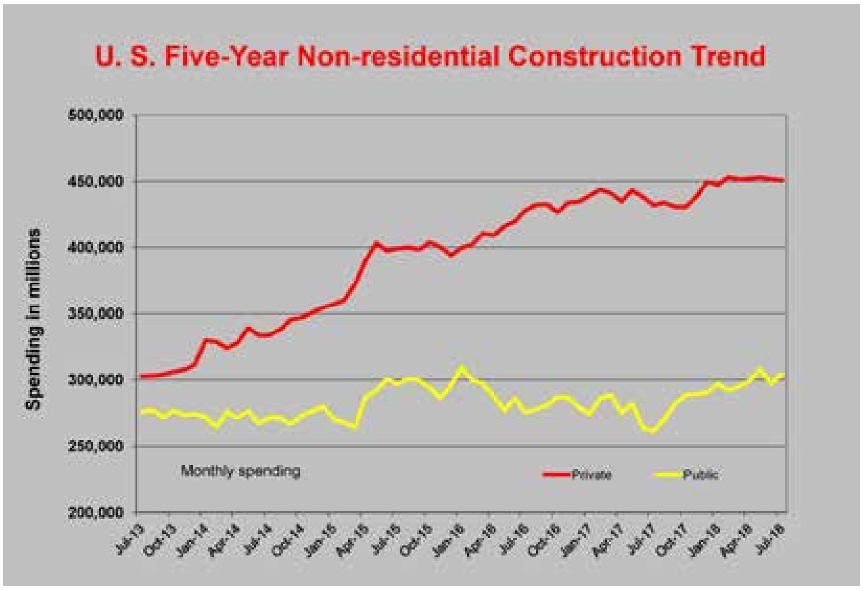
Concerns remain that the economy has been boosted by the $1.5 trillion tax cut in a way that is unsustainable beyond 2018. The prospects for the third quarter are nonetheless expected to be as rosy as the second quarter. The Federal Reserve Bank is anticipating another quarter of GDP growth that approaches the current rate, with the Atlanta Fed expecting another quarter above four percent. While the Fed sees GDP growth falling back below two percent in the fourth quarter, its forecast for the full year is for 2018 growth to be above three percent. There are some problems associated with that level of economic growth.

"The economy is clearly growing above the long-term trend," observes Mekael Teshome, vice president and senior regional officer for the Pittsburgh office of the Federal Reserve Bank of Cleveland. "We are approaching a boom, the peak that occurs in the later phase of a cycle. It's clear that the economy is growing beyond its capacity."

Expansion of capacity is one missing piece of the economic story. While there have been some industries beginning to add to or reopen plants, there hasn't been as much activity as would be expected with the growing demand. There are indications that business confidence in continued growth does not extend beyond 2019. It's also likely that the shortage of skilled labor is dampening the desire to add capacity. Adding plant and equipment is fruitless if there is no one to operate it.

The September 7 jobs report for July was above target at 201,000 new hires. Unemployment fell again to 3.9 percent, with the so-called total unemployment level falling to 7.5 percent. The latter is the U6 category, which includes persons who are unemployed, marginally employed and employed part-time for economic reasons. The U6 unemployment levels are well below those of the previous peak. Based upon this quick look at the job market it's not hard to conclude that demographics (meaning retirements) are keeping the workforce from growing as fast as demand. With business confidence high, the inability to find workers may begin to slow job creation. Initial jobless claims fell in mid-August to 211,000, and continuing claims fell to 1.72 million. The pool of additional workers will have to come from the part-time workers and those marginally-attached to the workforce.

These employment dynamics are more exaggerated for the construction industry, which has a 3.4 percent unemployment rate. The construction industry added another 19,000 jobs in July, bringing the total employed in construction to 7.2 million. That's the highest total since May 2008, but 6.3 percent below the June 2006 peak. Job openings in construction jumped from 183,000 to 263,000 from May to June.



Private nonresidential construction spending has flattened out since the end of 2017, while public spending has trended slightly higher. Source: Census Bureau

Construction volume is showing no slowdown from the five to six percent pace of growth that is four or five times the workforce growth rate.

A survey of 2,500 construction firms conducted by Autodesk and the Associated General Contractors of America (AGC) found that 80 percent of the companies reported difficulty in hiring skilled workers. One in four said that they were beginning to employ labor-saving technology as a way to combat the shortage.

The strong job market is credited as being the biggest driving force behind the continued strong demand for new housing. Strong demand has not pushed new home construction through its long-term growth trend, as structural issues – primarily lot inventory and demographics – are keeping supply constrained. The reporting on the July housing starts highlighted a couple of concerns that probably aren't holding back the housing market.

The August 16 report from the Census Bureau showed 1,168,000 housing units started in July, an increase of 0.9 percent over June but a decline of 1.4 percent compared to July 2017. Permits for new construction were at 1,311,000, a 4.2 percent increase year-over-year. Of note, the number of permits not started reached 175,000, which is further evidence of the strength of housing demand and an indication that builders will remain active through the fall. Both starts and permits for single-family homes were up compared to June. Single-family starts in July reached 862,000 units, while permits for single-family numbered 869,000 units.

July's activity levels were below the expectations of most economists. The gap was widely reported to be a combination of construction inflation, tariffs and rising mortgage rates. While the roughly nine percent year-over-year jump in material inputs to construction is a reality, most of the homes that would have started in July were priced no more than a few months earlier. July's contracts may have included some increases that were blamed on tariffs, none of the tariffs had gone into effect by the time pricing was done and residential construction materials are less involved with tariffs.

Another long-term trend that remained in July was lower home ownership rates. Data from 2017 shows that all demographic groups had lower home ownership rates than in 2006, the year before the mortgage crisis began. In 2017, Baby Boomers boosted the home ownership rate of those over 65 to within two points of the 2006 levels but the rate of ownership for those under 35 was seven points lower than in 2006 and those between 35 and 44 owned homes at a rate that was ten points lower.

Sales of existing and new homes are also trending lower than expected. Taken in concert with the lower new construction, the outlook for housing in the U.S. for the next six months to one year is for tight supply to continue to create upward pressure on prices. The response of developers and builders to that market opportunity will dictate the trend in new construction.

According to the September 1 report by the Census Bureau, construction spending hit an annualized $1.315 trillion in July. That's 8.2 percent higher than July 2017 and virtually flat compared to June. The variance of less than one-tenth of a percent from June to July is an example of how consistently even construction has been month-to-month in 2018, with no month varying as much as one percent from the prior month's total. Year-to-date, construction spending has been 5.2 percent higher than in January through July 2017.

Like with spending overall, investment in public construction and private non-residential construction has leveled off in 2018. Private non-residential spending has remained at or around the $450 billion mark since January. That's a high water mark for two decades. Public spending continues to creep higher, breaking through the $300 billion level several months in 2018. The trend in public construction is upward but spending is not likely to grow beyond $315 billion in 2019.

Activity in architectural firms remained solid through the summer. July's headline reading of the American Institute of Architects (AIA) Architectural Billing Index (ABI) remained positive for the tenth straight month. A binary survey of AIA firms, the ABI reports whether billings, design activity and new inquiries are higher or lower than the previous month. A score above 50 indicates that more firms saw increased activity than decreased. In July, the billings index slipped slightly to 50.7, while the index for inquiries jumped almost four points to 60.5. The continued billings level above 50 suggests that construction activity will continue to grow for another nine months or more. The continued higher level of inquiries suggests that bill growth in billings will also continue, portending growth in construction through 2019.

That 2019 date stands out in more than a few surveys of business expectations. Given the heightened level of political tension, and with a potentially momentous mid-term election just a few months away, business owners are less optimistic about 2020. Most economists who were predicting a slowdown in the economy before the end of 2019 have pushed that forecast out another year. The Federal Reserve Bank survey of recession forecasts has increased to 19 percent for 2019, but that still means four of five economists see no chance of recession next year. Presidential election years are historically sluggish years for the economy. It appears that more businesses are expecting that 2020 may be slower than the 2017-2019 period. BG

WHAT'S IT **COST?**

Three months does not make a trend; however, three months of high inflation for construction does eliminate the likelihood of a one-time spike. The Bureau of Labor Statistics (BLS) released its survey of July pricing for all sectors of the economy on August 15 and the results reduced the likelihood that the May spike was a one-off event.

All indexes for inflation continued to accelerate in July. The trend that ominously continued for construction was that the index of all inputs to construction climbed at a rate that was two-and-a-half times of all producer prices. The producer price index (PPI) for final demand – the best measure of inflation for all finished goods and services – rose 3.3 percent compared to July 2017. PPI for final demand was unchanged from June, as was the PPI for inputs to construction. The bad news was that the year-over-year increase in PPI for inputs to construction was up 8.1 percent in both June and July, following a 9.6 percent jump in May.

The July BLS reading on inflation confirmed that the construction industry's supply chain was able to get aggressive price increases to stick for at least 90 days. Manufacturers and distributors of building products and materials have been trying to get double-digit increases through the market at various times over the past five years as construction activity peaked, mostly without much success. It appears that the imposition of tariffs on some construction-related materials has been the decisive factor, even though none of the tariffs were in effect during the 90-day period that has been measured thus far. Buyers appear to be willing to accept the tariff justification, even for materials that have little or no tariff impact.

Along with the significant jump in pricing from tariffs, availability of many materials is now running short. Price quotes on many items are coming with disclaimers of one or two weeks, leaving contractors and owners with uncertainty on both long-term budgeting and hard bids. These disclaimers are being applied even in cases of materials, like steel, which have excess capacity.

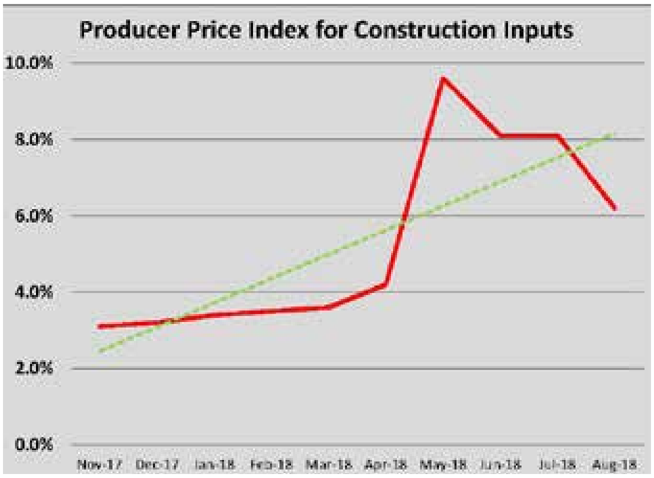
IHS Markit and the Procurement Executives Group Construction (IPEG) reported on August 22 that costs increased for the 22nd straight month in July. The IPEG survey uses a scale from 0 to 100, in which readings higher than 50 indicate upward pricing strength. Price increases for materials and equipment were above the neutral threshold of 50 for 11 of 12 categories, although pricing had eased from July in ten of those categories.

The upside of the July data is that it appears that the price increase activity has leveled off for the time being. That will still leave an ongoing year-over-year trend that is eight percent higher than in 2017, but unless another round of price increases is put through the market there should not be an acceleration of inflation beyond that level. And some of the rising materials – like lumber, steel and copper – have eased back since their peak.

Data on employment costs for July and the second quarter raised concerns that labor inflation is nearing an inflection point as well. The BLS employment cost index – which includes all compensation items – rose 0.6 percent during the second quarter and 2.9 percent from the second quarter of 2017. Employment costs in construction rose only slightly faster – 1.0 percent and 3.2 percent respectively – but two related issues could soon put a squeeze on construction employment costs.

PERCENTAGE CHANGES IN COSTS	July 2018 compared to		
	1 mo.	3 mo.	1 yr.
Consumer, Producer & Construction Prices			
Consumer price index (CPI-U)	2.0	1.7	2.9
Producer price index (PPI) for final demand	0.0	1.9	3.3
PPI for final demand construction	0.4	1.8	3.2
Costs by Construction Types/Subcontractors			
New warehouse construction	0.3	1.2	2.6
New school construction	0.4	1.7	3.1
New office construction	0.5	2.2	3.8
New industrial building construction	0.7	1.9	3.5
New health care building construction	0.4	2.0	3.3
Concrete contractors, nonresidential	0.4	2.5	4.1
Roofing contractors, nonresidential	0.0	0.9	1.1
Electrical contractors, nonresidential	1.0	1.9	3.8
Plumbing contractors, nonresidential	0.3	1.7	2.8
Construction wages and benefits	0.0	4.8	8.1
Architectural services	0.1	(1.0)	(0.4)
Costs for Specific Construction Inputs			
#2 diesel fuel	(1.6)	12.4	43.6
Asphalt paving mixtures and blocks	1.5	0.6	6.0
Cement	0.6	1.5	2.3
Concrete products	(0.8)	2.2	3.7
Brick and structural clay tile	(0.3)	0.3	1.6
Plastic construction products	(0.2)	2.0	4.7
Flat glass	(0.4)	1.0	2.9
Gypsum products	1.3	3.0	4.1
Lumber and plywood	(1.6)	10.5	16.3
Architectural coatings	0.4	2.5	4.2
Steel mill products	1.6	16.3	12.4
Copper and brass mill shapes	(7.3)	(7.3)	8.0
Aluminum mill shapes	(3.0)	10.7	17.8
Fabricated structural metal	(4.4)	9.5	15.3
Iron and steel scrap	(0.8)	9.1	25.2

Source Bureau of Labor Statistics, Updated August 15, 2018
Compiled by Ken Simonson, AGC Chief Economist



The leap in year-over-year inflation of inputs to construction continued in July for the third consecutive month.

PPI increases for specialty contractors and project types ran only slightly higher than the employment costs in the second quarter and year-over-year, even though inflation for construction wages and material inputs were more than double those levels. If completed project costs are increasing at half the rate of wages and inputs, it is likely that contractors are holding margins down to compete. In a robust market, contractors can be expected to raise margins for new additions to backlog.

If the inflation for competed projects and trades are running lower because of increased productivity, it's unlikely that can continue for much longer. Construction unemployment is running 3.4 percent (compared to 3.9 percent overall) and employers are almost universally frustrated at the inability to hire new workers. Future work will likely require overtime and premium pay to complete.

Whether the coming months bring profit margins that are more in line with the booming market or significant wage increases to meet the schedules, it appears that labor costs have reached a point of inelasticity for construction.

A common theme among the respondents to the July price surveys was uncertainty about the trends of factors driving construction inflation. The sense of relief that the recent spike in material prices had reached a plateau was offset by concerns that labor costs and trade policy could trigger another bump higher. The third quarter of 2018 starts with as many questions as answers. BG

FINANCING CONSTRUCTION 2018

Cash may be king but financing is the mother's milk of construction. With very few exceptions, construction projects – be they single-family homes or high-rise office buildings – require a lender to extend credit to an owner before a project becomes viable.

Construction projects result in assets that have some perception of payback. In the public sector, citizens give up their taxes so that schools will be built to educate their children. In the private sector, tenants pay rent that covers (the landlord hopes) the debt service for the loan and creates equity for the developer or owner of the building. Mortgages of one sort or another are the foundation underpinning the construction industry.

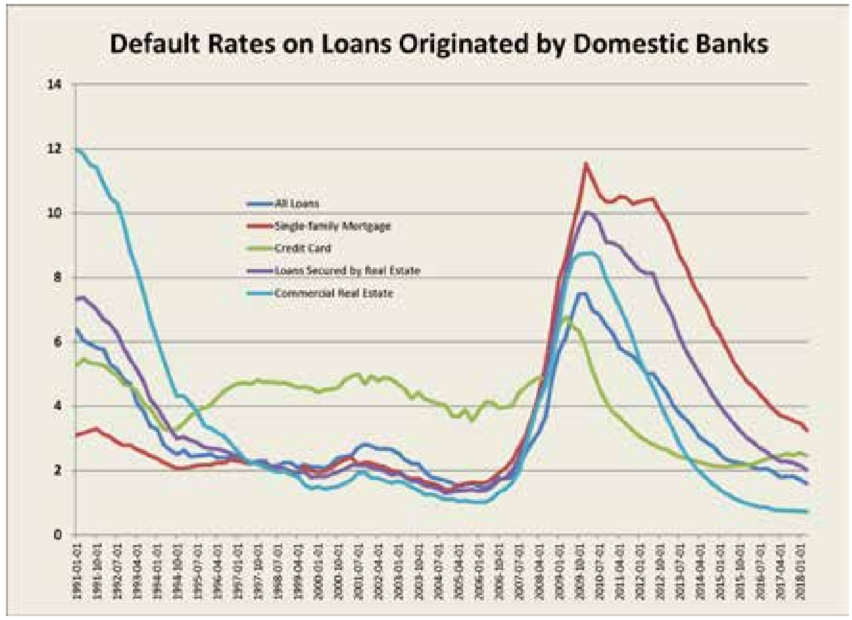
The secret sauce that makes the financial markets work is the repayment of the debt. In most markets, borrowers pay back the lenders. It's in the best interest of the borrower to do so, but sometimes conditions change and borrowers default. Lenders try to avoid this unhappy circumstance by due diligence in the application process. Regulators try to avoid this by making it harder for lenders to get aggressive or careless. Public agencies have rules about what conditions are necessary in order for them to issue bonds; they may even have to get approval from the voters. With all the measures that are in place, the secret sauce still runs out every once in a while. The global financial system found that out again in 2008.

Over the past decade, lenders and borrowers have returned the marketplace to normal. Unlike after past credit crises, there has not been a pendulum swing back to irresponsibility. There is a robust economy, still driven by consumer spending, but consumers have not ratcheted up leverage like they did in the mid-2000s. Banks have been regulated heavily, but even in less regulated markets, there is caution that is often missing late in a business cycle. Moreover, while the age of the business cycle leads you to believe that a slowdown should come soon, there is almost no objective measure that supports that prediction.

There is a booming economy. More people are employed in the U.S., and in the Pittsburgh region, than at any time in history. The unemployment rate is at a generational low. Gross domestic product is higher than it has ever been. These are conditions that make lenders happy, borrowers creditworthy, and economists happy. There are clouds on the horizon but for financial institutions, the times are pretty good.

Market Conditions

What is getting the attention of economists and financiers is the yield curve, or lack thereof. The yield curve measures the spread between short-term rates, like the two-month Treasury bill, and long-term rates. Long-term rates should be higher because the risk of default is higher. When the time value of money is adequately expressed by appropriate interest rates, the yield curve steepens as the term lengthens. As of late summer 2018, the curve is rather flat. That means long-term creditors aren't getting much more interest than short-term lenders. Economists worry about what that says about the economy.



Loan defaults have fallen precipitously over the past five years. Among the major loan categories, credit cards and student loans are seeing slight upticks in default rates.

The interest rate market doesn't always behave as we think it should. Most of the news about interest rates emanates from the Federal Reserve Bank's Open Markets Committee, which sets the interest rate that it charges banks for short-term liquidity loans. The financial markets aren't so arbitrary. Lenders and borrowers tussle daily about what interest rate fairly reflects the time value of money for each. The process isn't as academic as that may sound but at the root of lending, a borrower accepts that the rate the lender charges is a fair return when they accept the loan. The lender accepts that the borrower's interest rate fairly compensates it for the risk of default.

Things changed in 2008. Trust in the financial system collapsed, for good reason. To help revive the financial markets and stimulate a recovery, the world's central banks, including the Fed, dropped interest rates to nearly zero. Over the next few years, interest rates remained historically low for all debt instruments. In several European Union countries, banks actually charged an interest rate to depositors, rather than the other way around. Since then, most of the countries across the globe have seen some measure of economic recovery. But rates have not followed.

The short-term Federal Funds rate has steadily increased 175 basis points to 2.0 percent since late 2016 but long-term rates have increased roughly one percent.

"Long-term rates are compressed, in part, because of quantitative easing. We're unwinding that but the rates are still compressed while that unwinds," explains Mekael Teshome, vice president and senior regional officer for the Pittsburgh office of the Federal Reserve Bank of Cleveland. "There has also been a flight to safety. With so much trouble around the world, there has been a flight to Treasury bonds that is keeping rates low. The third factor is low inflation. There are some concerns about inflation but not enough to make long-term rates react."

As central banks bought billions in government bonds and mortgage-backed securities, keeping rates artificially low, there remained a reasonably constant spread between long-term and short-term rates. Since the unwinding of the stimulus began in 2016, short-term rates have jumped two points but long-term rates have nudged higher less than half that much. The spread between the two is narrowing. A flatter yield curve is not the same as an inverted one, however.

"In a normal functioning economy there will be differences between long-term and short-term rates so banks can borrow short-term and lend long-term," says Teshome. "When the yield curve is inverted, long-term rates are lower than short-term rates and banks have no incentive to lend. When the yield curve is negative, you usually see a recession within six to 24 months.

"What we have now is a flattened yield curve that is still positive. The problem is that we have rising short-term rates and at some point we could have an inverted yield curve. What does that mean for the economy? I believe – and [Cleveland Fed President] Loretta Mester has said – because of all of the recent disruptions, like quantitative easing, the yield curve signal doesn't mean the same as it has. In the past, the flattening yield curve was a leading indicator that was pretty reliable but because there are disruptive factors it isn't the same signal."

One signal of the effect of a compressed yield curve is the willingness of banks to make loans. The Federal Reserve's most recent Senior Loan Officer Opinion Survey (SLOOS) showed that bank's willingness to make loans remained stable, with 9.2 percent more senior loan officers responding more willingness than less. Relatively few lenders are taking measures to tighten lending standards. The SLOOS data indicated that underwriting was tightening for auto and multi-family loans, where there are concerns, but banks reported net looser standards on commercial and industrial (C & I) loans, and credit for commercial real estate and Fannie- and Freddie-qualified property.

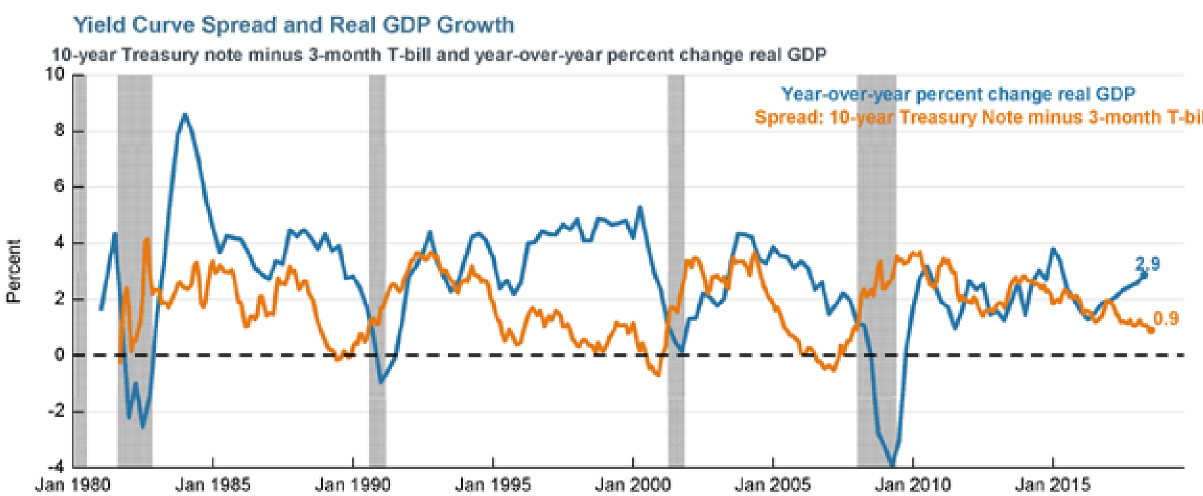
One surprise that came from the SLOOS was weaker loan demand. Loan officers saw demand falling across all the categories surveyed by at least five percent, with a slight decline in small C & I loans as the only exception. Demand for credit cards and multi-family loans fell by almost ten percent; and government-sponsored enterprise (Fannie and Freddie) loan demand dropped by 18 percent. It is believed that the Tax Cuts and Jobs Act will spur loan demand in the second and third quarter data.

The trend in loan defaults is more consistent with a robust economy. Defaults in all types of loans spiked in an unprecedented fashion from 2008 to 2010. Consumers reduced their debt leverage dramatically over the next five years and, since 2013, loan defaults have plummeted. Commercial real estate defaults have dropped to levels unseen in 30 years.

That's good news for lenders, especially in light of a significant jump in the savings rate for Americans, which stands at about 6.5 percent. When the financial crisis hit in 2008, the savings rate was near one percent, which meant that many people had no cushion upon which to fall when layoffs came.

A fourth critical ingredient in the capital market stew, liquidity, is also more than adequate to keep financing rolling. Unlike in 2008, when no one was buying any financial instrument for a time, there are more than enough buyers and cash in the markets to finance construction. In part, the liquidity has been driven by the low yields on public and private bonds since the crisis. With ten-year Treasury bonds below two percent for years, investors had to search elsewhere for returns. That was particularly true of the large fixed-income investor class, which has typically favored debt instruments – like 30-year mortgages, municipal bonds or commercial mortgage-backed securities (CMBS) - that drove construction.

There is still demand for those long-term fixed-income instruments, which are providing better yields than in 2015, and the market liquidity has been increased with a surge in private equity investors. Private equity funds are typically looking for returns on investment that are much higher, 15 percent or more, than construction or real estate provides. Those kinds of returns have been harder to come by over the past decade and private equity has become more accepting of the low double-digit returns that good real estate deals are bringing.



Sources: Federal Reserve Board and Bureau of Economic Analysis via Haver Analytics
Last data point: 2018:Q2 for GDP and Jul 2018 for Treasuries.

Market conditions overall are still favorable for construction finance. In certain segments, the conditions are actually ripe for the kind of sloppiness that preceded the financial crisis. In commercial real estate, there is more capital chasing deals than there are deals to be had at the moment. In the past, that kind of market led to lower lending standards and sloppy due diligence. There is evidence that the opposite is true.

"What we hear consistently is that lenders are looking at things more conservatively because of where we are in the business cycle," says Daniel Puntil, senior vice president at Grandbridge Real Estate Capital. "Underwriting since the financial crisis has been far more diligent. There continues to be mark-to-market valuation. There is no underwriting based upon future rent forecasts."

Public Finance

One of the principal mechanisms for financing public construction is the issuance of municipal bonds. Public agencies, governments and private activity borrowers (PAB) – like hospitals, universities or airports – can take advantage of long-term revenue growth expectations by taking on long-term debt in the form of bonds. Federal tax code allows for the income from most municipal bonds to be free of income tax, making the municipal bond a desirable instrument for fixed-income investors. Because the income is tax-free, investors can accept interest rates for municipal bonds that are below those of the private long-term debt markets, especially since municipal bonds are backed by a safer government entity.

Municipal bonds have been the backbone of the K-12 and municipal infrastructure markets in Pennsylvania. The bond market is experiencing some changing dynamics that are a mixed bag for public financing.

The Tax Cuts and Jobs Act of 2017 had a couple of significant effects on the markets. Initial congressional tax reform proposals stopped PABs from issuing municipal bonds. PABs comprise a large share of the municipal bond supply. The uncertainty about future access to the markets pushed PAB borrowers to rush bond issuances at the end of 2017. December's municipal bond supply, with $63 billion sold, was twice the average December issuance of $30 billion. That increased activity didn't increase the number of projects; it simply pushed 2018 issuances into 2017.

Tax reform eliminated the issuance of municipal bonds to refinance existing debt at lower interest rates. These bonds, called advance refunding bonds, comprise about 30 percent of the municipal bond market on average. Combined with the advance issuance of December 2017, the elimination of advance refunding bonds significantly reduced the supply of municipal bonds for 2018, which are running about 25 percent below the 2017 levels year-to-date.

On the demand side, the new tax regulations affected personal and institutional investors very differently, but the impact has not diminished overall demand for municipal bonds.

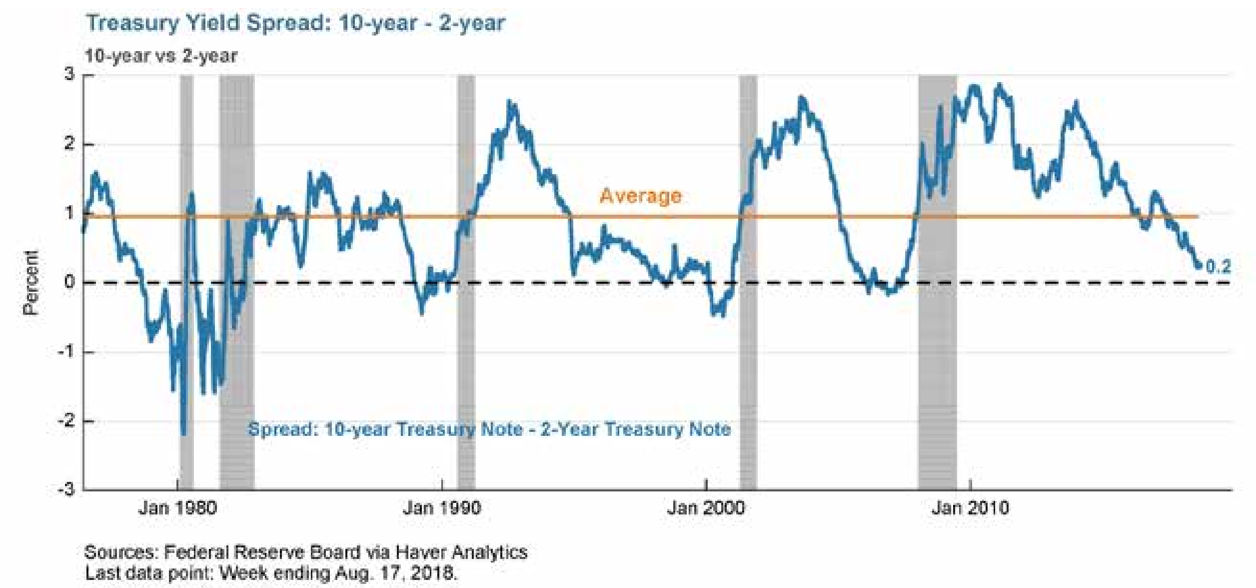
Institutional buyers of municipal bonds – investors like banks and insurance companies – saw their tax rates fall from 35 percent to 21 percent beginning in 2021, thus reducing the incentive to own tax-free bonds. And, in fact, banks and insurance companies have largely stopped buying municipal bonds and are slowly selling portions of their existing holdings since the first quarter. Because the top tax brackets for individual incomes remained largely the same, all above 30 percent, the appetite for tax-free personal investments remains high. Individual investors have pumped enough into the market to more than offset the decline in institutional buyers. Through the end of July, the supply of municipal bonds was insufficient to meet demand. That's a good thing for borrowers.

Like other debt instruments, interest rates and prices move in opposite directions for municipal bonds. When demand runs ahead of supply, borrowers do not have to offer as high a rate (or as steep a discount from face value) for the bonds that are issued. Even though short-term rates are rising throughout 2018, the supply/demand imbalance for municipal bonds has kept prices high and borrowing costs low.

The perception of default risk is the other major factor determining price and rate for bonds. In the case of municipal bonds, there is an implied guarantee of payment because the borrower is a government entity that can raise taxes or fees to ensure payment. History has shown, of course, that such a guarantee doesn't truly exist.

Municipal bond failures did occur prior to the financial crisis, and the general lack of liquidity and risk aversion immediately afterwards made even AAA-rate municipal debt undesirable. Since then, however, an expanding economy has filled state and local government tax coffers. Property, sales and income taxes are coming in at or above budgeted levels. For the vast majority of state and local issuers, the extended period of recovery and economic expansion has allowed them to mend their finances and restore their reserve levels. There are legacy pension and benefits costs that continue to cause fiscal stress for specific state and municipal entities. Pennsylvania is, unfortunately, one of the states that still face significant budget stress caused by large underfunded pension systems, both for the Commonwealth and hundreds of municipalities.

It's not concerns about public default that are gumming up public construction finance. The problem with public construction finance is that public construction has declined steeply. That decline is part of the reason that there is an insufficient supply of bonds relative to demand. Budget stress and the threat posed by underfunded pension systems have had an impact by limiting the capital spending of public agencies in Pennsylvania.



A moratorium on PlanCon processing has frozen K-12 construction. Hundreds of millions in funding from Act 89 have been diverted from infrastructure spending to fund state police patrols for municipalities without police forces. The State System of Higher Education and Department of General Services have seen capital budgets decline, even as the cost of construction has steadily risen.

Home values have risen significantly over the past five years, improving the tax base for local revenues; however, the will to increase millage hasn't matched the rising values. Most municipalities and school districts have been forced to use the increased tax revenues to keep up with rising operating costs and maintenance, rather than major capital plans. The market for public financing is strong. The market for public construction is not.

Private Finance

Private residential construction financing is a mixed bag. Most of the housing units built in the U.S. are financed individually through a construction loan that is repaid when the home is sold to a homeowner or converted to a permanent mortgage. The loan for the development of the community in which most single-family homes are built is a commercial loan, however, with conditions different from the home loan itself. And multi-family construction is also financed through a commercial loan, which behaves much like a loan for an office or warehouse.

The financing mechanism

most commonly associated with the residential market is the single-family mortgage, of which there is $10.6 trillion in outstanding debt as of June 30. This sector of the debt market is the largest, dwarfing the commercial or multi-family mortgage markets by three to six times. Roughly half of that mortgage volume is owed to depository institutions, banks or institutions that behave like banks. Considering the size of the residential mortgage market, it's easier to understand how a disruption like what occurred in 2007 and 2008, when defaults jumped from less than two percent to more than 12 percent, could cause a global meltdown. Since a majority of the mortgages originated in the U.S. are sold to fixed-income investors, the toxicity of the market spread like a virus throughout the financial markets.

Mortgage rates have drifted about a half percent higher in 2018, but the 30-year mortgage rate remains around 4.5 percent, which is where that rate was in January 2014, July 2013 and July 2010. The headline interest rate is the Federal Reserve Bank's interbank rate, which has increased by .25 percent six times in the past two years; however, long-term rates reflect market pressures and perceptions of risk that are de-coupled from the Fed's short-term rates. Long-term rates, reflected in 15- or 30-year mortgages, have remained range-bound within 50 basis points for most of the last eight years.

Because residential mortgages are generally reliably paid back at a rate of 98 percent or more, residential mortgages remain a popular investment vehicle, meaning there is more than adequate capital available for lending in the residential mortgage market. Like with most sectors of construction finance, the supply exceeds demand for single-family mortgage lending.

Perhaps because the incremental increases in short-term rates haven't pushed home mortgage rates higher, there hasn't been the buying response that usually accompanies an increase in rates. Rates can get high enough to kill a market – like what happened in 1981-1982 – but the human nature response to rates rising after a long period of easing credit has often been to rush to buy before they go higher. The rate hikes early in the housing bubble moved buyers off the fence in this way but that hasn't been the case in 2017-2018.

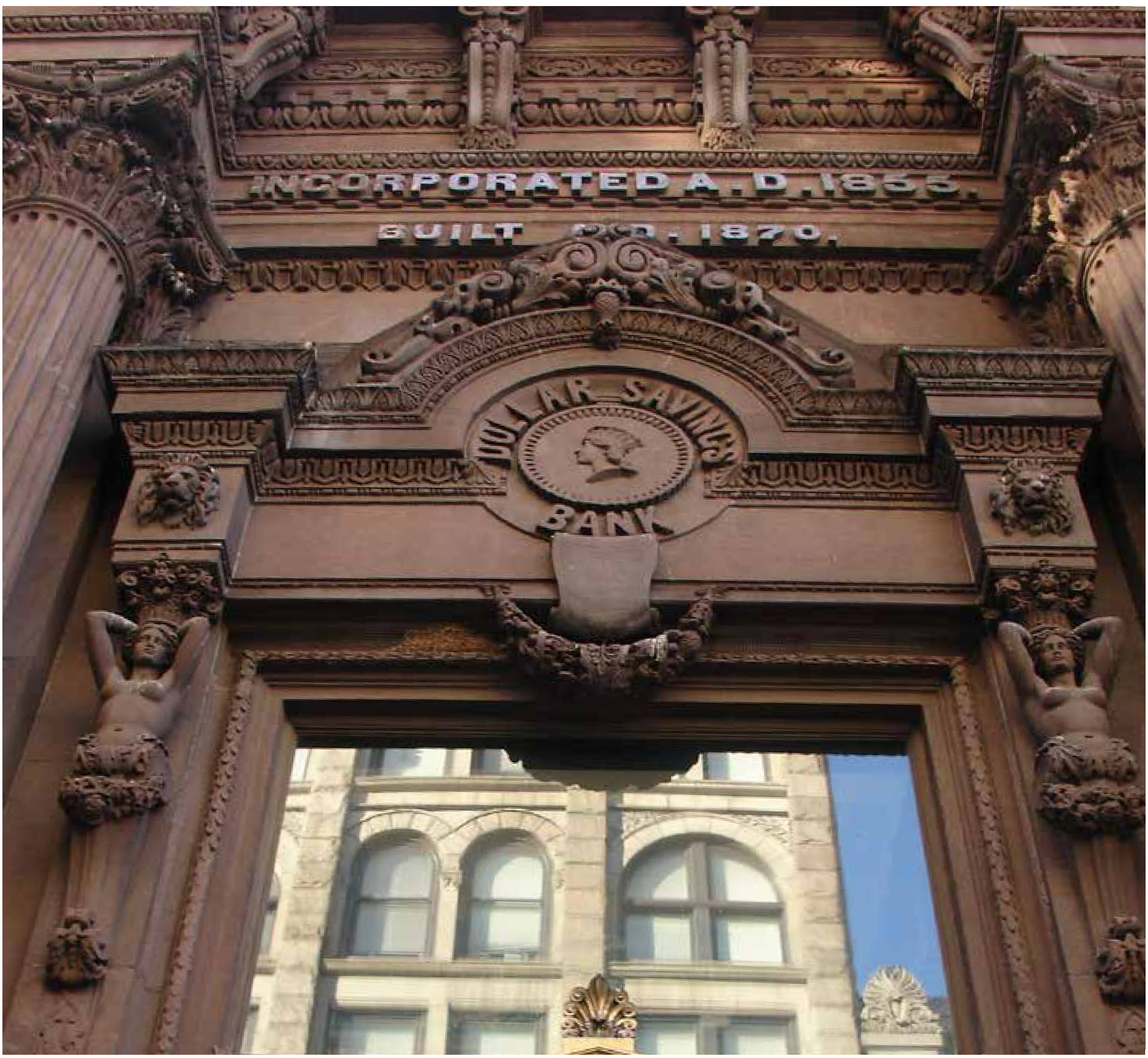
Residential mortgages became the target of intense regulatory scrutiny after the financial crisis, prompting the multi-faceted Dodd Frank Act. There are many provisions of Dodd Frank that have tied the hands of lenders, limiting their opportunities to overextend credit, but single-family mortgage market hasn't been slowed by regulation in the way that single-family development has.

The development of new single-family neighborhoods has gone up significantly at a time when the financial regulations and appetite for lending were making residential development less desirable. That's a bad equation for new construction. Dodd Frank regulations that affected acquisition and development loans made banks much less interested in lending. They were required to hold larger reserves, which made patiently waiting for a subdivision to build out less appetizing. For developers, the increased equity requirements and oversight reduced the profitability and appetite for doing single-family development.

Taken together, the negative factors in residential development far outweighed the profits. As much as any other factor, the more onerous financing conditions for neighborhood development is the reason there is a national and regional lot shortage. A recent change in regulations may help with the inventory problem.

What is known as the Economic Growth Act became law in April 2018, rolling back some of the restrictive regulations that were part of Dodd Frank. For commercial real estate, the deregulation mainly relieved some restrictions associated with High Velocity Commercial Real Estate (HVCRE) loans. Since 2015, borrowers for HVCRE loans, which included most categories of commercial real estate and residential development, were required to have at least 15 percent equity in the projects. Land that was contributed as equity was valued at its cost basis, rather than its market value. This was impactful in Pittsburgh, where a larger share of landowners/developers had land that was held for an extended period. The HVCRE stipulation meant that their land values were greatly reduced for the purposes of contributing equity to the loan, even though the market value may have been many times higher. Lenders were required to hold higher levels of cash reserves for HVCRE loans, adding to the cost of capital.

The Economic Growth Act removes the land value stipulation. Banks are still required to hold higher reserves but the types of projects that will be considered HVCRE have been reduced, allowing lenders to re-classify the loans that had HVCRE reserve premiums. This will free up capital and will be an incentive for lenders to become more active in the commercial real estate space.



The financial crisis gave one sector of the housing market a shot in the arm. Apartment demand rose, sadly, as foreclosures rose and home ownership became less affordable. Apartment development was the one commercial real estate loan that lenders were happy to originate. As the economy has rebounded, the market for apartments has remained robust but there are fundamentals that are causing lenders to cool off on the sector.

Commercial real estate loans, which finance development of apartments, office buildings, warehouses and retail centers, come from a variety of capital sources, with very different regulatory oversight and investment goals. What all commercial real estate deals have in common is that the return on the investment comes from the excess cash flow from rents and/or the increased value at the time of sale. These two factors are the exit strategies from construction to permanent financing.

"Construction financing can be viewed as a bridge," explains Dave Antolic, senior executive vice president and chief lending officer for S & T Bank. "A commercial building is built and then leased. Once the owner has a stabilized cash flow and understands how the building is going to perform, they can sell it or get permanent financing and enjoy the benefits of the cash flow."

The apartment market benefitted over the past decade from favorable supply/demand dynamics and from favorable financing conditions. Both exit strategies Antolic describes have worked well over the past decade. Rents rose at a higher-than-average rate across the U.S., but in many cities – including Pittsburgh – rents increased by five percent or more for a number of years. That made owning apartments desirable, which pushed the price of apartment complexes up at an accelerated rate. The heightened demand compressed capitalization rates in some markets below four percent. That elevated the risk for the buyer but made financing the exit much easier.

Cap rate is a simple calculation that is meant to determine the current value of a property by dividing the cost by the net operating income (NOI). A building worth $1 million with an NOI of $100,000 has a cap rate of 10. In cases where the current value is being evaluated by a buyer or lender, a cap rate derived from comparable sales can be multiplied by the NOI to determine how much the building is worth. There are times when buyers will pay more than the cap rate suggests (like when rents are rising rapidly) but in a mature market, like that of 2018, lenders are going to put more stock in what cap rates suggest. Buyers tend to overpay for assets late in a business cycle. Since the driving factor of the cap rate should be NOI, lenders are looking for cap rates to move higher.

Rising interest rates are beginning to complicate the market. When rates go up, the NOI goes down unless the landlord can raise rents accordingly. In a mature market, rent increases flatten. Rents may actually decline if a market segment has become overbuilt. Because the current business cycle is almost ten years old, there are signs that getting permanent financing is more difficult. That could slow down commercial real estate development.

"For a borrower or investor the goal is to get to a fixed borrowing cost," say Antolic. "A construction loan has a floating rate because the rate will move throughout construction. Once you get to a permanent loan, you can get to a rate that is constant."

Significant new construction projects take a year or more to complete. Most times, interest rates and costs stay within a tight range during the span of construction, but construction inflation and interest rate increases have accelerated since 2017. If this trend continues, construction lending could be negatively impacted.

"I really haven't seen any issues but it depends on the product type and market. For example, it might be challenging to finance an unanchored retail center in a small market or a suburban hotel with a less attractive flag," notes Puntil.

Puntil also reports that he has seen some pushback on deals that were higher-leveraged and appraisals came back lower than expected. For a borrower with a loan-to-value ratio that was near the limit, a revision of a couple points could cause a problem getting the permanent loan without adding equity.

Nick Matt, senior managing director and co-head of the Pittsburgh office of mortgage broker HFF, sees rising rates causing potential problems in reaching the 125 percent debt service coverage ratio that permanent lenders want.

"There are two parameters to a deal. For loan-to-value you get an appraisal. Based upon recent sales compared to construction dollars, you would feel pretty good," he explains. "But with rates going up – and the all-in rate is five percent now – there could be a problem with debt service. If you take 80 percent of the value, you're probably still covered on equity; but on the other metric, debt service, you can't get there. If you are buying at a 5.5 cap rate you can't get to 125 percent."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"In the final analysis, the best medicine for construction financing is a solid economy. The vast majority of construction projects, be they private or public, are buffered to endure a slowdown in the economy. The most recent two recessions were unusually severe. The frothy conditions that caused the Dot.com and housing bubbles don't exist today."

Aside from the higher borrowing costs, Matt points out that the more aggressive construction lenders in Pittsburgh add to the problem. He uses the pro forma example of a $60 million construction project that the owner puts in 15 percent equity for the construction loan. Using typical ratios for expenses, the NOI for the property and the 5.5 cap rate yield a value of $67.8 million. At 80 percent loan-to-value, the $54 million loan is sufficient. But, using 125 percent debt coverage ratio leaves the borrower with a $3 million gap between the maximum amount of the permanent loan and the equity in the deal. That $3 million is the difference between the 85 percent construction loan and the 80 percent permanent loan.

"The permanent lender needs debt coverage that the construction lender does not," Matt concludes.

Rising interest rates pose another problem for commercial real estate. Higher interest rates mean that other investment vehicles can compete with real estate on a risk-adjusted basis. More capital sources have been available because of poor returns elsewhere but higher rates could move private equity and other investment grade lenders into other asset classes.

"We follow the spread between the ten-year Treasury bill and cap rates. That spread has come down but there is still room for the spread to compress before cap rates start to rise," says Paul Griffith, senior managing director of Newmark Knight Frank Valuation and Advisory. If there isn't growth in rents to match the growth in cap rate there will be problems. In markets where rent isn't going up two or three percent, the value of the property won't increase. That will cause exit problems for permanent financing. The owners will have to put more equity in."

Matt zeroes in on the Pittsburgh market's stability as a potential surprise problem for borrowers, especially from out of town, who plan on getting significant appreciation in the typical term of commercial real estate ownership.

"The cap rate you get going in is the cap rate you'll get going out in Pittsburgh," he asserts. "Maybe you can buy at a lower cap rate in another market but that will be where you can get three to seven percent rent growth every year. Compounding that over five to ten years offsets any premium you might have paid."

It's worth noting that the alarms being raised are about issues that are only concerns because of the extremely favorable borrowing conditions in recent years for both construction and permanent loans. Higher rates and slowing rent growth could have an impact getting permanent financing over the next 12-18 months. That's important because it will hit developers in the pocketbook.

"For most developers that are market-oriented, they won't experience any benefit, other than the developer's fee, until the exit," says Griffith. "All the profit on the cost of land and their soft costs is at risk until they exit by selling or getting permanent financing."

Until long-term rates rise significantly higher, developers and investors can deal with any gaps by making minor revisions to the expectations for the project. Dave Antolic believes that such revised expectations are being baked into the due diligence.

"A good bank will stress test the project a couple of years out to see what the cash flow will be after rates go up to assure the borrower has the cash flow to cover the payment," he says.

Not every lender is going to be so diligent, and not every borrower will be so conservative as to guard against long-term rates that drift one or two percent higher. The ghosts of 2008 still haunt the halls of construction lenders and investors, especially those in Pittsburgh. Recent examinations of the global financial system have revealed that few safeguards are in place to prevent the kind of meltdown that occurred in fall 2008. Thus far, however, the kinds of behavior that precipitated the crisis have not required those safeguards.

In the final analysis, the best medicine for construction financing is a solid economy. The vast majority of construction projects, be they private or public, are buffered to endure a slowdown in the economy. The most recent two recessions were unusually severe. The frothy conditions that caused the Dot.com and housing bubbles don't exist today. If a downturn does occur in the coming year or two, the financial system won't be the culprit, and construction financing is in a position to withstand such a downturn. BG

Image by GBBN Architects.

PROJECT PROFILE

TREE PITTSBURGH HEADQUARTERS AND EDUCATION CENTER

"[Electrical capacity] was our 'Apollo 13' moment," jokes Chris Klehm, vice president of sustainability for Jendoco Construction Corporation.

Jendoco is the construction manager for the new headquarters, classroom and shop facilities for Tree Pittsburgh in Lawrenceville. A small operation founded in 2006 (formerly the Friends of Pittsburgh Urban Forest), Tree Pittsburgh had a very fixed budget for the new facility. Klehm alludes to that with his comparison to the ill-fated 1970 moon mission, in which the amount of power available was limited to a failing battery.

Like in the Apollo 13 recovery mission, the amount of power to be used in Tree Pittsburgh's new facilities was determined by the supply, not the demand. Because it was committed to a net zero building, Tree Pittsburgh's usage was limited to the electricity that its solar panels could generate. Klehm notes that the kilowatt maximum helped drive the choices of lighting and devices that the building would have.

"We had to design light systems, pumps, fans, condensers all to work within that 50 kilowatts of available power," he says. "The efficiency of the building, the efficiency of the mechanical systems, and the efficiency of the lighting were developed on that reality. It wasn't easy to find solutions that got us to net zero. We had to dig our heels in a few times to remind everyone that net zero was an owner's goal that we were going to deliver."

The challenge of creating a net zero facility on a site that had limited utility access was but one of the obstacles that the design and construction team faced in delivering the Tree Pittsburgh project. That problem highlighted the central challenge posed to the project team: the limited budget. A young and lean non-profit organization, Tree Pittsburgh was trying to build a facility that it could grow into and use to serve the community

without the benefit of an established endowment or capital campaign. Executive Director Danielle Crumrine worked tirelessly to win grants and foundation gifts to get to the $2.6 million price tag. While that mission was ultimately accomplished, the problem was that the actual price tag was higher than the budget.

"The budget was a parameter that was a challenge. Our original design was significantly over what the client had," says Matt Plecity, associate and project architect for GBBN Architects. "The sustainability goals were in place from day one, so it was a challenge to try to shoot for net zero, trying to minimize water usage and collect all the water, both surface run off and from the roof."

Plecity laughs when asked if the budget meant having a contingency that was too small. "There was no contingency. They came in with 85 percent of the cost and we had to get them across the line to 100 percent."

GBBN Architects was hired to deliver a program that had three main elements. Roughly half the building's 6,500 square feet is devoted to education. About 25 percent of the building is Tree Pittsburgh's office, which includes an open floor plan, conference room and break room. The remainder of the building is the workshop, which is where the work that is Tree Pittsburgh's life blood is done. The classroom portion of the building is designed to become event space that opens to the building's deck. This gives Tree Pittsburgh the opportunity to generate additional revenue from the property.

At the design development stage, four contractors were invited to submit proposals for the construction management of the facility. Jendoco Construction approached the project with Tree Pittsburgh's mission and special circumstances in mind. And they included a proposal to deliver the project using modular construction.

"With a modular building was this idea of treating the project and site like a tree," recalls Michael Kuhn, Jendoco's president. "Because they don't own the property, they may one day have to relocate, so they may have to move what they have. To add more value, Jendoco offered the services of e2 (Energy and Environmental Solutions), our sustainability consulting firm directed by Chris Klehm."

"We went in with three things that I think helped us get the job," says Klehm. "One was our approach to collaborating on the project, helping the architects develop the design. The second was we really did bring the idea of doing a modular building during the interview stage. We thought that was the right way to approach it. And the third thing was we said we would do the LEED consulting and donate the LEED certification fees for the building."

Each module was delivered to the site with finished interior walls, ceilings, flooring, and trim. Photo by Jendoco Construction.

Advocating for a modular approach resonated with the owner and architect. The concept of using prefabricated components for the facility had been discussed.

"Our early thoughts on the design were to flesh out some ideas and then to think about how it could go modular," says Plecity. "We never really thought of it as a 'shipping-container' modular. It was always how can it be prefabricated? Modular is almost a wrong word. It is really prefabricated.

"I think we were surprised that a contractor would come to that same conclusion, frankly, because most contractors we work with want as much scope to themselves as possible. We thought it was a very interesting idea. We had done some modular construction before, so it

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seemed like something that was potentially a very good fit for this project. The way Jendoco imagined doing it with an outside fabricator was unique. We were excited to have a partner that we could work with to develop this project."

"We looked at an estimate of the building and we couldn't build it on site for what we could buy it," says Klehm. "That was a motivator because of budget. When I looked at what we could provide the building for, which was 90-some dollars per square foot, I realized it was a good deal. With this being a GBBN project, it's not a box. It's complex."

Construction began with site preparation in November 2017. Everyone involved in preconstruction knew this would be one of the project's biggest challenges. (Plecity jokes, "To call it a brownfield makes it sound better than it was.") Jendoco's project manager, Dan Freyer, explains that conditions were as bad as feared for a former Tippins steel mill.

"Getting through the site proved to be very difficult. They chose to use helical piles for the foundations because the soil was classified as hazardous and we were not allowed to excavate and have soil leave the site. They wanted a foundation system that disrupted the least amount of soil possible," he says. "In theory that was great, but in practice it was something different. The soils were fine once you got to four or five feet but, up to that point, we were constantly hitting old foundations. We actually had to go in and hoe ram the old foundations to get to the point where we could turn the helical piles."

Another site work challenge was the utility access to the facility. Both the design and construction teams described the site as remote, even though it is located in an urban setting. Tree Pittsburgh's new facilities are located on three acres just west of the 62nd Street Bridge, between Butler Street and the Allegheny River. Although the site is within the densely-populated Lawrenceville neighborhood, there was little or no utility service available for the new building. Allegheny Valley Railroad was extremely reluctant to allow access for power, sewer and water through its rail bed and the Pittsburgh Water and Sewer Authority had no lines feeding or serving the site. This urban remoteness added to the scope of the site work and drove some of the early decision-making.

"Working with railroads is not always the easiest thing to do. They don't like to see utilities go over or under their rail lines," says Plecity. "Power had to come over the railroad but there is no water supply on the site. It's a really strange thing to be right next to a river, with tons of other water lines running through the area, but not have an active PWSA line to the building."

Running a water line to the building was also going to add $200,000 to a budget that was topped out. To solve the problem, a 5,000-gallon storage tank was installed and Tree Pittsburgh has water delivered as needed. The tank's filtration system is fine enough to use rainwater as potable water, a future option should Allegheny County permit harvesting rainwater for drinking.

The building's exterior gives a nod to the owner's mission. Wood is used for the decking, walkway, porches and trim.

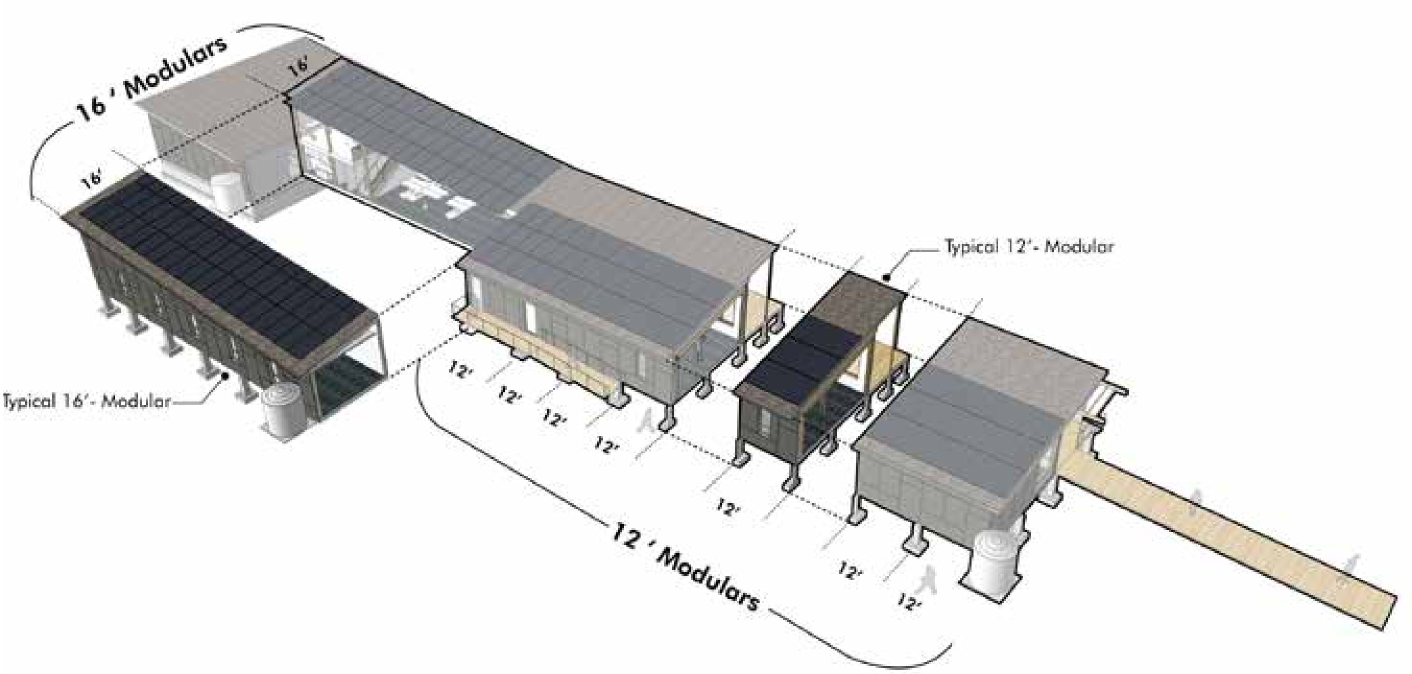

Image by GBBN Architects.

Eleven prefabricated modules of the facility were lifted by crane onto foundations. The conventional workshop structure is in the back. Photo by Jendoco Construction.

A granite gray fiber cement cladding, called Cembrit Patina by American Fiber Cement Corporation, is used for the main exterior finish. The muted color accentuates the wood used on the exterior. A stain was used that also enhances the natural color of the wood. Large, energy-efficient windows let in lots of light, offsetting the need for as many light fixtures. A standing seam roof is used beneath the photovoltaic (PV) panels that generate all the electricity for the facility.

Funding for the PV panels came through Green Mountain Energy and the Penelec Sustainable Energy Fund. It was the size of the solar array, which was determined by the limits of Tree Pittsburgh's funding, that capped the kilowatt capacity that can be generated. There was more room on the building's roofs. There just wasn't any more budget for a larger array.

"When you look at all the net zero projects we have around the city, they take the roof area plus parking lot, plus stand-alone modules," notes Klehm. "On this site the roof was all we had."

Although the structure was to be prefabricated, the building was designed completely by GBBN, with Jendoco's in-house designers creating the shop drawings for the model that Structural Modulars would use for manufacturing. The completed product was constructed and shipped in modules but the buildings were not designed based upon pre-set modules, as you might find in a manufactured house.

The Tree Pittsburgh facility includes a conventionally-built wing for its shop that connected to four 16-foot modules and seven 12-foot modules. Each module was wrapped weather tight, but without siding, and with the interior walls painted and trimmed. Recessed light fixtures were installed at the factory; cabinets were hung; electrical outlets were wired and finished. Plumbing fixtures were installed once the buildings were set on site but the finished plumbing was completed.

As you might imagine, the integration of the modules with the conventionally-built workshop was critical. Plecity explains that the pattern of the Cembrit panels on the exterior of the workshop were intentionally different from the rest of the building to allow for a certain amount of mismatching between the two structures. The cladding on the main building was designed to have no matching lines from one module to another because there was uncertainty as to whether that would be done in the factory or field.

"I have to tell you that when the modular building came and it basically lined up where we thought it would, it was a huge sigh of relief on my part," chuckles Plecity.

Not all aspects of the integration worked as well, however. Prefabricating much of the building resulted in a dramatic savings in on-site labor hours, but the newness of the delivery method meant that there was a learning curve on preconstruction for Jendoco and GBBN. Prefabrication meant little or no room for field adjustment. Communication between the architect and contractor was

completely different from how preconstruction proceeds on a conventional building. Moreover, Structural Modular and its local dealer, EcoCraft, had little experience with a commercial building. That led to quality control issues that weren't anticipated. As a result Jendoco ended up with more re-work than it anticipated.

"I think there were two main issues," says Klehm. "One was the inexperience of the provider with working for a general contractor. They were unable to say with certainty what scope of the building we would be responsible for once the building was delivered. The second thing was that when you put this into production there were no changes. That's not a normal concept for a project team. Once we put it into production there was no deciding later that the architect or owner wanted something different. That means colors, paint, carpet, every detail like that has to be decided. That's a challenging piece to get everybody to buy."

Freyer believes that because Structural Modulars and EcoCraft had essentially 100 percent residential experience, the challenges of adapting to commercial codes and life safety issues were much greater. He notes that much of the time lost during preconstruction was spent educating the prefabrication team with those realities.

"There were a lot of things we have to think about and plan ahead of time that we would normally have more time to digest," agrees Plecity.

"We had to engineer solutions as we went through the project because there was no more money," Klehm says. "Dan did a miraculous job of balancing things, saving money one place or another to keep the budget where it needed to be."

Jendoco and GBBN maintained their commitment to collaboration throughout the project, in part because of their enthusiasm for the new process, and because of a commitment to deliver what Tree Pittsburgh needed. Construction will continue through most of September, as the final items are completed but Tree Pittsburgh was able to move in September 1.

"It's a tribute to their organization and Danielle Crumrine in particular. She is a miracle worker with donors," says Plecity. "She had to balance grants and shake the trees with groups like Green Mountain Energy and Duquesne Light. She would meet regularly to try to get every potential opportunity for a funding source."

"Danielle was very easy to work with," says Freyer. "She was very understanding through this whole process at every bump in the road." "BG

PROJECT TEAM

Jendoco Construction Corporation .... General Contractor

Tree Pittsburgh .... Owner

GBBN Architecture .... Architect

Iams Consulting .... Mechanical/Electrical Consultant

Structural Modulars Inc. .... Building Manufacturer

e2 Energy & Environmental Solutions .... LEED Consultant

Ramsey Construction .... Site Work Contractor

Kalkreuth Roofing & Sheet Metal .... Roofing Contractor

D. Dennis and Son .... Plumbing Contractor

Tudi Mechanical Systems .... HVAC Contractor

Independent Mechanical Inc. .... Electrical Contractor

FIRM PROFILE

PHOENIX ROOFING INC.

"This year has been the most robust economy I've seen, without a doubt," says Bruce Bartholomew, vice president and minority owner of Phoenix Roofing. "We have been working seven days per week for months. Labor is, as everyone knows, super tight. I envision another two to three years of that locally."

Phoenix Roofing is a union roofing and sheet metal specialty contractor, located in Robinson Township. The company has 85 employees in the field and office. The company is named because of its origins, which Bartholomew explains were related to family.

When Bartholomew reflects upon market conditions, he is reflecting upon an industry that he has known for nearly 40 years. At 16, his mother married the owner of General Roofing and from that point his summer jobs were roofing related. In 1991, General Roofing became involved in several workmen's compensation losses so severe that it put them out of business. Bartholomew saw an opportunity to start his own business while allowing his stepfather to get relief from financial problems.

"We founded Phoenix and entered into agreements with all of General Roofing's active customers to complete the projects they had in progress," he says. "We finished those projects on a time and material basis, which took about a year. It was our segue into self employment. Phoenix was not strapped with a punitive experience modification rate so we could hire experienced people that worked for General Roofing and complete the work profitably. After that we transitioned into our own work with our own customers."

Although the opportunity to finish the work for General Roofing's customers was a good opportunity, it did come with its own headaches. It was difficult for Phoenix to gain separate credit with vendors that had worked with General Roofing. There were issues reconciling what customers had paid and the progress that had been made. There was more to work through than just getting roofs complete. And to the marketplace, Phoenix Roofing was still a startup that was fighting to gain market share.

"When we started finishing General's work we had 60 people, but once we were done we were down to 20 and were chiseling away trying to make a living like everyone else," Bartholomew recalls.

Those first few years in business for Phoenix Roofing coincided with a national recession and a slowdown in work in Pittsburgh. Bartholomew points to two specific opportunities that really helped the young company gain a foothold.

"What helped get us on the map was a big job at Chartiers Valley High School in 1994 that was a Siplast job, which we could never have done on our own," he recalls. "I had gotten to know the owners at A. W. Farrell [from Erie] over the years and they approached us about doing a joint venture with them. Phoenix essentially did the tear off and they put the roof back on. It gave them access to local labor. Being on such a prominent job changed the way people saw us. I think it was a very helpful step in our development. People stood up and took notice of us."

Two years later, Phoenix landed their first million-dollar standalone contract. One of the projects that Phoenix finished for General Roofing was the airside terminal building at the new airport, which was a PJ Dick project. The project went well enough that they were asked to bid a new prison in Elkton, WV for which PJ Dick was the successful general contractor. The bid resulted in a $1.4 million contract for 13 separate new buildings.

As Phoenix Roofing gained market share, Bartholomew began making strategic moves that served the company well in the years that followed.

They started an asbestos abatement company, Specialized Industries, with the sole purpose of doing roofing-related

Bruce Bartholomew

Brian Bartholomew

abatement. Their roofers were cross-trained in the specialty trade of asbestos abatement so that whenever they encountered asbestos Phoenix was able to use their own crews to abate the problem with less down time and temporary protection.

"In 1999, we hired an estimator named Mark Thomas," Bartholomew continues. "Mark had been an intern for us for a couple of summers. Mark's hiring allowed us to move my brother Brian over to start Bruin Roofing."

Bruin Roofing is a non-union company. Roofing is one of the contracting specialties for which it is not uncommon to find related companies that are union and non-union. The practice of being "double-breasted" has very strict regulations that are designed to keep the workforces and revenue streams separated. There can be no overlap in workers or management. Support resources like accounting, human resources or marketing cannot be shared. To work within the rules, while gaining the advantages of sharing resources, Bartholomew established Bird and Bear Enterprises. Bird and Bear employs the support staff and owns much of the equipment for the roofing businesses, billing Phoenix and Bruin as the separate entities use them.

Bartholomew saw Bruin Roofing as an opportunity to gain customers doing commercial and institutional projects that weren't hiring a union roofing contractor. He says the results surprised him.

"The interesting thing about that is that we thought we would have union customers and non-union customers with maybe a five percent overlap," he explains. "As it turned out, there are maybe ten percent of our customers that are exclusively union or non-union with an 80 percent overlap. We found out that it wasn't so much the customers that were driving union versus non-union work, but rather the project, particularly if it was prevailing wage."

As the market has evolved over the years, Bruin Roofing has remained small, with Phoenix Roofing being asked to bid the larger projects, as well as bidding all of the prevailing wage work. The company does about 50 percent of its work directly for owners and about 50 percent as a subcontractor to general contractors. Phoenix does low-slope commercial roofing. It does no residential re-roofing or shingle roofs. To take advantage of under-utilized labor resources Phoenix is beginning to expand its standing-seam and roofing metals business to include siding work. Currently the mix of its business is 85 percent roofing and 15 percent metal. Bartholomew would like to see that closer to 50/50. He sees market opportunities in the small siding jobs for existing and new customers that the larger players don't have the time to pursue.

The moves made in the 1990s put Phoenix Roofing in a good position for the boom that occurred in the mid-2000s. That, in turn, went a long way towards helping the company weather the Great Recession. Since the downturn in 2009, a handful of major roofing competitors have closed their doors or been acquired.

"We have benefited from the Pittsburgh Renaissance," Bartholomew says. "We did the new ALCOA Building. We worked on Heinz Field and the convention center and we did all of the roofing on Children's Hospital, including both new buildings and the existing buildings that were renovated. We were the roofer for PPG Paints Arena. During that period we landed the biggest roof we have ever done, the Bulk Mail Facility for the Post Office in Warrendale, which was a $3.6 million project. We were fortunate to have steady growth right up until the Great Recession."

The backlog from the booming construction prior to the recession was an important factor in Phoenix's ability to weather the downturn. The contracts for the Bulk Mail Facility, Children's Hospital and PPG Paints Arena were all signed prior to the recession, but the work was not performed until 2008, 2009 and 2010.

"That worked carried us later into the recession but like everyone else we struggled to find work to keep everyone busy," Bartholomew admits. "Once we got through that backlog, there were slim pickings. The thing that has helped us always is that we care about the work we do, the manner in which we do it and the way we service our customers. Our customers appreciate that. They know that they can rely on us, that we'll staff the job and do it right, and be fair about how we price."

"There are times when there is shared culpability but if we screw something up, and it's clear that we did, we'll make it right."

In an industry that still awards most of its work to the low bidder, Bartholomew believes that there are still competitive advantages to be gained by investing and taking a longer view of the business.

"We try to be more sophisticated than how people typically think of a roofing contractor," says Bartholomew. "We invested to have the resources: our full shop, the vehicles that we own. The fact that we are in a captive insurance group, the way we use technology, the equipment we have, the organizational structure that we use, are all designed to separate us from our competition."

"We have an ambition to do our job and do it well, and on time. Where I think we really separate ourselves is if we do

something wrong – and eventually you will – we make it right," he continues. "There are times when there is shared culpability but if we screw something up, and it's clear that we did, we'll make it right. The other thing that makes us unique is that we have an appetite for difficult projects, whether it's a hard schedule, whether a big job, whether it's high or super difficult. We definitely aren't afraid of a project with lots of challenges."

As Phoenix Roofing heads towards its 30th anniversary in 2021, Nancy Bartholomew has mainly retired but remains the majority owner of Phoenix Roofing. Bruce Bartholomew is the vice president of Phoenix and the president of Specialized Industries. Brian Alston is the operations manager. Tom Egan is controller.

Bruce Bartholomew looks to the next few years with anticipation. Some of his best customers have big projects, like the hospitals, in the hopper. Phoenix is replacing the entire roof on the Freight House Shops as part of the renovation to create the UPMC training center. The $3.5 million project will be the second largest in Phoenix's history. He expects there will be even bigger opportunities to come.

"We live in a bit of a bubble here in Pittsburgh, compared to the national economy," Bartholomew says. "I wouldn't be surprised if we get that correction in the market at some point but I think it will affect us less because of what is going on in Pittsburgh." BG

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CONTRACTORS MUST BE PREPARED FOR ZONING AND DEVELOPMENT PERMIT APPLICATION HEARINGS

BY PETER W. NIGRA

A natural gas company recently lost its permit to drill and operate multiple natural gas fracking wells because the company failed to present sufficient evidence to the local zoning board to establish that fracking was a permissible use in an area zoned Residential/Agricultural. While the zoning board found the company's evidence sufficient and granted a permit to conduct drilling, local residents appealed the decision. The Supreme Court of Pennsylvania ultimately invalidated the permits based on the zoning board record of evidence. The Court did not rule that fracking is never permitted in residential or agriculturally zoned districts, but instead held that the company failed to put sufficient evidence into the record to meet zoning standards.

"The company could have avoided losing its permit by knowing the zoning ordinances and developing an appropriate record of evidence. In preparing for public zoning board hearings, permit applicants must be aware of all zoning ordinances and must develop a record for purposes of withstanding scrutiny from the courts."

The company could have avoided losing its permit by knowing the zoning ordinances and developing an appropriate record of evidence. In preparing for public zoning board hearings, permit applicants must be aware of all zoning ordinances and must develop a record for purposes of withstanding scrutiny from the courts.

In a June 1, 2018 Opinion, the Supreme Court of Pennsylvania held that the Fairfield Township Zoning Ordinance (the "Zoning Ordinance") did not allow natural gas fracking in a district zoned Residential-Agricultural. Gorsline v. Bd. of Supervisors of Fairfield Twp., No. 67 MAP 2016 (Pa. June 1, 2018). The Court held that the contractor, Inflection Energy, LLC ("Inflection"), failed to present sufficient evidence during public hearings to establish that its use of land was similar to other permissible uses.

The issue first came before the Fairfield Township Board of Supervisors (the "Board") when Inflection submitted a permit application to drill, complete, produce and operate multiple fracking gas wells on land zoned Residential-Agricultural. The Zoning Ordinance defined a Residential-Agricultural district as one intended to "foster a quiet, medium-density residential environment while encouraging the continuation of agricultural activities and the preservation of farmland", and defined permitted uses to include agriculture, single-family detached dwellings, and "essential services" such as electric, water, and gas distribution systems. Conditional uses included agricultural business, and public service facilities.

The Zoning Ordinance did not provide that natural gas fracking was allowed, but there is a provision of the Zoning Ordinance that allows the use of land for purposes that are similar to expressly permissible uses, i.e., a "savings clause".

Two public hearings were held before the Board. At these hearings, Inflection presented Thomas Erwin as an expert witness to support its application. Regarding similarity of uses, Mr. Erwin testified inconsistently, that (1) fracking was not a "public service facility" use, and that (2) fracking fits the definition of a "public service facility." Inflection elected not to ask Mr. Erwin to explain his inconsistent testimony, and failed to offer other testimony relevant to the issue of similarity through Mr. Erwin or other witnesses.

The Board ultimately allowed the construction and operation of the natural gas well under the savings clause. The Board found that fracking was a use that was similar to allowable uses, but failed to identify which permissible use was similar to fracking. There followed a series of appeals. The Commonwealth Court upheld the permit award, finding that fracking was similar to a "public service facility" or an "essential service".

The case ultimately came before the Supreme Court of Pennsylvania. The Court reversed the decision to allow fracking based on two primary conclusions: (1) a lack of sufficient evidence at the public hearings, and (2) a conclusion that fracking is not similar to any permissible use. In the first instance, Inflection's expert witness gave inconsistent testimony and failed to provide any specific reason why fracking was similar to a public service facility. Inflection failed to meet its evidentiary burden and present evidence regarding similarity of use.

Second, the Court concluded that natural gas fracking "is not, in any material respect, of the 'same general character' as any allowed used in the R-A [Residential-Agricultural] zoning district, including the 'public service facility' and 'essential services' uses…." The Court found that a public service facility or essential service is designed to provide services for the local residents of Fairfield Township. Because Inflection failed to offer any evidence that natural gas extraction provides any benefit to the residents of Fairfield Township, or indeed, Lycoming County, the record was insufficient to accept Inflection's application to conduct fracking. Moreover, Inflection's use was intended solely for its own commercial benefit, and not for the benefit of local residents.

In making these conclusions, the Court repeatedly noted the lack of evidence presented to the Board during the public hearings. The Court specifically held that its "decision should not be misconstrued as an indication that oil and gas development is never permitted in residential/agricultural districts, or that it is fundamentally incompatible with residential or agricultural uses." Instead, the Court found that a permit will not be awarded "based upon a clearly inadequate evidentiary record and no meaningful interpretive analysis of the language of its existing zoning laws."

A more substantial record of evidence at the public hearing may have saved Inflection's accepted permit application. Zoning ordinances must be fully considered before any permit application hearing, and such ordinances differ between municipalities. The Gorsline case is a strong reminder that contractors must be fully prepared to set forth specific evidence at public hearings in order to meet all zoning standards or risk losing permits after substantial litigation.

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CLARIFYING SALES TAX FOR CONTRACTORS

BY TIMOTHY D. ADAMS, CPA AND MATT DODGE

If you have ever been billed for state and local sales tax by a contractor doing repairs on your home, there's a good chance that bill was wrong. Construction activities are not subject to sales tax in Pennsylvania.

Contractors in Pennsylvania need to become more familiar with sales and use tax rules to properly invoice and pay sales tax on their projects. Determining the correct tax treatment can be challenging. Sales tax considerations for contractors vary, depending on whether they perform construction, installation, building repair, or building maintenance services. An additional layer of complexity is involved if the contractor's customer is an exempt entity.

PA Reg. Sec. 31.11 defines "construction activities" in Pennsylvania, and it is the starting point for determining the sales tax treatment for contractors.

Construction activities—Any activity resulting from an agreement or contract under which a contractor attaches or affixes tangible personal property to real estate so as to become a permanent part thereof. Construction activities also include the service of repairing real estate, even though tangible personal property is not transferred by a contractor in conjunction with the repairs which he makes.

The regulation goes on to list six pages of activities that are generally considered "construction activities" as compared to "sales activities." A construction activity occurs when a contactor installs or attaches something to real estate with the intent that it will remain there permanently. If a contactor installs new windows, the windows are intended to remain with the house indefinitely; therefore, the transaction is a construction activity. In this instance, the contractor purchases the materials, pays the sales tax, and includes it in the total construction contract price.

On the other hand, if a retailer or contractor installs a window air conditioning unit, the window unit is not permanently attached. It is easy to remove and will not damage the property upon removal. This transaction is a sales activity. The seller of window units invoices the customer for sales tax on the air conditioner and the labor charge to install the unit.

If you're performing construction activities -- such as building a new house or installing a furnace -- the customer is not billed any sales tax. In the construction of a house or installation of a furnace, the contactor pays sales (or use) tax on its purchases of materials and equipment used to build the house or install the furnace, but no sales tax is displayed on the billing to its customer. The labor portion of the construction activity is not subject to sales or use tax. When a contractor (or retailer) sells and installs tangible personal property that is not permanently affixed, they are required to collect sales tax on the sale of the property and the installation charge. A contractor may purchase any property they sell and install, exempt from tax, by claiming the resale exemption. In the example of the contractor selling and installing a window air conditioning unit, the contractor purchases the unit exempt from tax by claiming resale, but bills its customer sales tax on the price of the unit and the charge for labor to install the unit.

The rules applicable to contractors are fairly simple, but the challenge is in the interpretation. The regulation provides numerous examples of construction activities and sales activities, and should be a contractor's starting point to determine if their work is subject to sales tax.

Contracts with Exempt Entities

The 1990s were a boom time for boutique sales tax consulting firms. In Pennsylvania, sales tax law allowed contractors or their exempt-entity customers to recover sales tax paid on items installed as part of a construction contract if the item retained its identity as tangible personal property. Schools, hospitals, and contractors engaged consulting firms to recover tax dollars paid on qualifying material and equipment. Sales tax paid by contractors on doors, air handlers, security equipment, and other types of qualifying property was refunded by the Pennsylvania Department of Revenue. The steady stream of refund petitions was one of the reasons for Act 45 of 1998. The law created new rules and sought to simplify the interpretation process. The benefit to the state was a gradual reduction in the number of refund claims.

In addition, the law helped to clarify which items a contractor could purchase exempt from tax for its construction contracts with exempt entities.

Act 45 created the "building machinery and equipment" (BM&E) carve-out. BM&E is classified as generation equipment, distribution equipment, conditioning equipment, storage equipment, or termination equipment used in one of 10 designated categories. For example, air conditioning would be BM&E when limited to heating, cooling, purification, humidification, dehumidification, and ventilation or electrical, but would not include wire, conduit, receptacles, and junction boxes. Items that qualify as BM&E may be purchased exempt when the purchase is related to a construction contract with an exempt entity, government entity, or for use in a Keystone Opportunity Zone. To claim the exemption, the contractor must provide its vendor with an exemption certificate. The Pennsylvania Department of Revenue (DOR) has published unofficial guidance on what items qualify as BM&E. The list, containing 54 pages of materials and their taxability (as determined by the DOR), is located on the department's website at http://www.revenue.pa.gov/GeneralTaxInformation/TaxLawPoliciesBulletinsNotices/Pages/Act%2045.aspx. Note: the list is not comprehensive nor is it binding to the DOR or taxpayers.

Building Maintenance and Cleaning

What about services to buildings, such as cleaning and maintenance? Pennsylvania does not tax all services, only those services enumerated by the code as taxable. Building maintenance and cleaning services are two services specifically identified as taxable in Pennsylvania. PA Reg. Sec. 60.1 further defines various services to buildings.

Building cleaning services—The performance of services which include the removal of dirt, dust, grease, or grime on a building or inside of a building, and the keeping of the building and its contents in a clean, neat, polished, or orderly appearance. The term includes janitorial, maid or housekeeping services, office or building cleaning, window cleaning, floor waxing, chimney cleaning, acoustical tile cleaning, venetian blind cleaning, cleaning or degreasing service stations, or cleaning enclosed telephone booths.

Building maintenance services—The performance of routine and periodic services upon a building that keeps the building in a satisfactory operating condition. The term includes cleaning, oiling, greasing, and replacing parts. The term does not include building repair services.

Building repair services—Services to a building that do not qualify as a building maintenance service or building cleaning service.

In general, building cleaning and maintenance services are taxable; building repair services are not. The task for providers of these services is to properly classify their services and be familiar with the exceptions and examples in the regulation. Central air conditioning maintenance is a taxable service, unless it is maintenance of residential air conditioning. Maintenance of boilers and furnaces is not considered a taxable building maintenance service, but what about an HVAC maintenance contract for a commercial customer that includes both heating and air conditioning equipment? These are the types of questions and issues that contracting businesses and their customers encounter. In this specific example, if your HVAC maintenance contract does not segregate furnace and air conditioning maintenance, the entire charge will be subject to tax. This is a common pick-up for the Department of Revenue when they audit taxpayers, whether it be the contractor or the contractor's customer. Once the assessment is established, the burden of proof is on the taxpayer to document costs by heating versus cooling to reduce the assessment.

The building maintenance and building cleaning services regulation is a must read for any business providing services to a building. The regulation includes many examples of services considered to be taxable building maintenance/cleaning and other services that are considered to be nontaxable (primarily as building repairs). Plumbing repairs and painting (interior or exterior) are always nontaxable and categorized as building repairs; whereas changing light bulbs or filters is classified as taxable maintenance service.

A provider of a building maintenance service pays sales tax (or remits use tax) on its purchase of supplies or equipment used to provide its service, but it is allowed to claim the resale exemption on items purchased that are transferred to the customer. If you're an HVAC contractor and you purchase air filters, you can claim the resale exemption since the air filter stays with the customer. The same contractor cannot claim resale on items it uses to perform its services, such as screwdrivers or testing equipment.

Best Practices

Know the tax consequences of a job before you bid and bill your work. Contractors are allowed to and should include sales tax in their bids (but not as a line item on customer billing documents) when engaged in construction activities. Contractors and customers alike should review projects and invoices to confirm proper taxation. PA Reg. Sec. 31.11 is a valuable reference and an initial resource for determining the taxability of a construction-related activity. When the taxability of a project/invoice is unclear, further inquiry may be made using DOR resources, legal letter rulings, the Find Answers website, or by contacting Pennsylvania's Office of Chief Counsel. If you're unable to make a determination or have other questions, consult with your accounting firm and their state and local tax expert. BG

Resources

PA Reg. Sec. 31.11
https://www.pacode.com/secure/data/061/chapter31/s31.11.html

PA DOR website – Find Answers
https://revenue-pa.custhelp.com/app/answers/list

Act 45 Summary and List for Contracts with Exempt Entities
http://www.revenue.pa.gov/GeneralTaxInformation/TaxLawPoliciesBulletinsNotices/Pages/Act%2045.aspx

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MANAGEMENT PERSPECTIVE

SURETY MARKET UPDATE

After more than a decade of solid profits, the surety industry is in a good place. Construction is strong throughout the country, and more so in Western PA. There is growing evidence that contractors are becoming more selective about the work they are pursuing, a reaction to strong backlogs and limited workforce availability. Those are conditions that mitigate the risk of losses and defaults.

That's not to say there are no worries in the surety market. While the construction industry overall is healthy, there are still potholes to avoid. Perhaps the biggest concern is the looming volume of work coming in Western PA. Construction activity appears to be outstripping contactors' capacity to produce the work with normal resources. There's an old adage that contractors die of overeating not starvation. Some of the surety industry's most experienced people see quite a feast ahead.

"In past recoveries, when the tide came in, all boats rose. I'm not necessarily seeing that this time," observes Jim Bly, managing director of subcontractor default insurance and surety analytics for the Alliant Construction Services Group. "The problem is that the market is so hot that there may be companies not keeping up. My biggest concern, and my clients', is that there will be adequate labor to keep projects on schedule and complete them."

Alliant has a nationally-based analytical service that includes information from over 1,400 contractors across the U.S. Bly says that the long-running and steady improvement of the construction economy hasn't necessarily translated into universal prosperity in the construction industry. That observation includes the Pittsburgh market.

"Even in Pittsburgh I have been seeing margins that have surprised me," he says. "And there have been some specialty contractor failures in the region."

"The biggest challenge will be staffing the work, both in the field and in the office," suggests Brian Hartman, surety principal at Seubert & Associates, Inc., a North Shore-based insurance agency. "Contractors are adjusting their bidding and backlog to match up with their staffing resources."

"The market in a nutshell is good," says Zach Mendelson, principal, bonds/construction for EPIC Insurance Brokers and Consultants. "The economic news bodes well for construction in Western PA. That's excellent for our market. I'm on the executive committee for NASBP [National Association of Surety Bond Producers] and word usually gets out when there are big losses coming, but right now the losses are very low. That's good for our industry."

Unlike in past construction business cycles, there have been few major defaults or contractor failures. During the past year, British contractor Carillion Corporation filed for bankruptcy liquidation, resulting in a $300 million loss to a handful of surety companies, including some of the largest U.S. insurers. No bonding company likes to experience losses, but the Carillion loss was well within the margins that insurers expect and did not dent profitability for the firms involved.

"Last year (2017) was the 13th straight year of profitability for the surety market and the last three years were really strong," says Bly. "There was only one loss of any consequence, which was Carillion in the UK. That loss will have no impact on the U.S. market. The subcontractor default insurance market is also taking on more of the losses in the U.S. that would be surety losses. There have been about $300 million in sub default losses. There is still a lot of capacity in the market and new capital is coming into the market that is pretty aggressive."

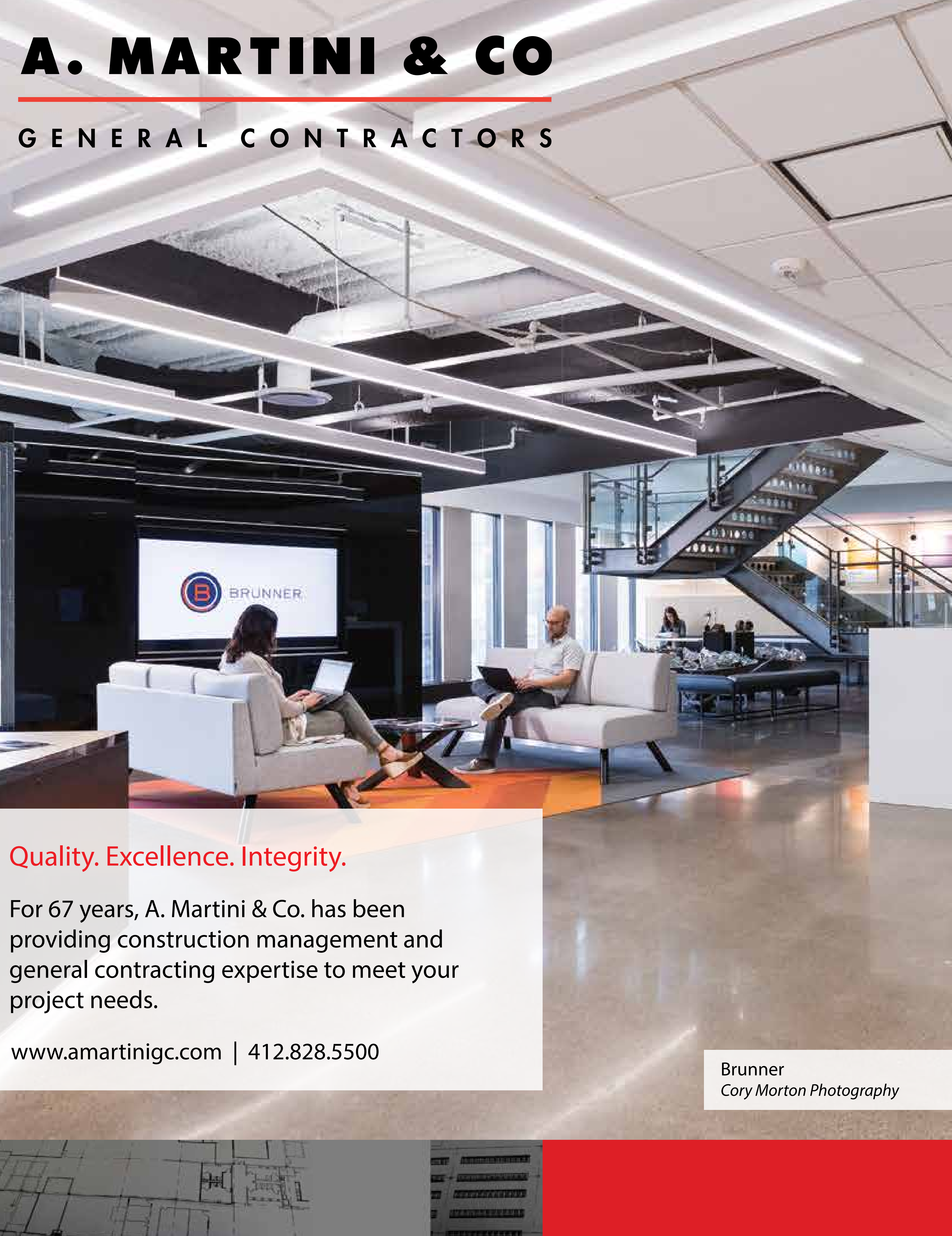
The latter point is one that was unanimously agreed upon throughout the industry. Insurers and their investors see the booming construction market as an opportunity to grow. This is a reversal of a major consolidation trend that occurred more than a decade ago.

"The reinsurance market is very robust because there have been few big losses. In years past there might have been one insurer who could bond a single contractor to a billion dollars; now, there are six or seven," Bly concludes.

"With the emergence of new sureties we have seen capacity grow. Frankly, capacity has to grow to keep up with inflation," says Mendelson. "I find there's great capacity in the marketplace and there is no doom and gloom on the carrier's side or the contractor's side."

Excess capacity allows contractors to grow but could potentially be a cloud on the horizon. The dynamics of the market seem to indicate otherwise. Like with commercial real estate investing, an overabundance of capital seeking deployment can lead to poor decisions and excessive risk-taking; however, this isn't the reality of the insurance market thus far. Underwriting discipline is staying ahead of hubris.

"Construction is booming in most places right now so there are a lot of bonds being placed. A lot of insurers are coming into the market so it's a little competitive," says Charlie Salazar, area vice president, construction practice for A. J. Gallagher. "But the underwriting is remaining pretty disciplined. There will always be exceptions. Some underwriters may be more flexible with contractors that have strong financial positions, where the risk of default is lower; but, in general underwriting hasn't changed as the



Brunner
Cory Morton Photography

market became more competitive."

"There have been new entrants in the marketplace in all sizes of sureties that are adding more capacity," agrees Hartman. "While they are aggressive, they are still maintaining discipline."

Hartman notes that market conditions like the current situation can raise the risk of losses and defaults for the smaller contractors who see the heightened activity as a chance to move up. Contractors that typically bill $15-$25 million per year may be well-positioned to double in a booming market, but those that aren't prepared for the additional challenges of growth risk big financial problems. Nevertheless, both Hartman and Mendelson say that disciplined underwriting doesn't mean that underwriting is inflexible.

"It may be because of larger contractor backlogs that sureties are underwriting as much on experience and credibility as current financials," Hartman says. "They may stretch for a good contractor with a large backlog. We're still not seeing the larger contractors stretching the limits of their surety programs. The market isn't telling them to slow down."

For all the optimism in the insurance market, there are also concerns about what will follow the current building boom. Over the course of history big defaults have tended to follow a year or two after a big downturn, and a year or two after a big boom. Poorly managed projects, or companies, will be exposed as the work winds down. Rarely does money run out at the beginning of a project. During a boom, there is enough cash flowing throughout the market to disguise problems. As Warren Buffett famously noted, it's when the tide goes out that you find out who isn't wearing a swim suit.

Ryan Burke, surety producer for Huntington Insurance, sees signs that owners and developers are focusing more on risk than in the past. He counsels contractors to be diligent, even in the face of opportunity.

"Contracts are getting so much more protective for the owners," he says. "If you sit and read through most contracts thoroughly, you would find four or five reasons not to do the project."

Burke also sees the potential for problems arising from new revenue recognition rules in the revised Financial Accounting Standards Board's (FASB) guidelines. In its original revision, FASB revenue recognition rules created some problems for contractors' accounting for progress payments and job costing the inventories associated with the projects. This could be especially a problem for specialty contractors.

"My understanding is that they have made allowances for contractors to use the existing method but the guidance may have changed," Burke says. "If you interpret the guidance literally, there are some provisions that wouldn't allow cost-to-cost accounting for percentage of completion. The CPAs seem to think the changes won't have a significant impact. It seems to be everyone's intent that the changes aren't significant, but if you read the FASB guidelines, there could be some problems with percentage of completion."

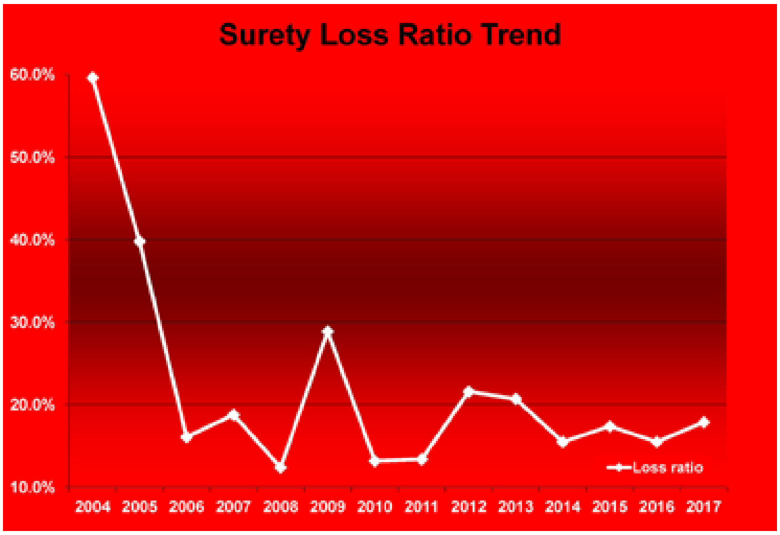
"I think the FASB changes could have some impact on financial reporting but it's something that can be explained, and it's a one-time occurrence," notes Bly. "The impact will even out in the following periods of time."

Over the past couple of decades, market conditions like those experienced in 2018 have preceded the worst of times for the surety industry. The perfect storm for losses may be a booming market with lots of capacity and lots of competition. What is different in 2018, compared to 1998 or 2002, is the continued underwriting discipline. Under the surface, there may be currents that insurance executives see as potentially dangerous; but, on the surface, it's pretty smooth sailing.

"There is capacity available with less focus on traditional underwriting that allows us, as brokers, to get a lot of deals done that otherwise might not have been available in a different time," says Bly. "It will be interesting to see how this plays out when available work starts to shrink. But we have not seen the level of defaults I would have expected. While we have seen a number of smaller sub defaults, the overall default ratio has not been what we would expect considering how hot the construction market is in a number of markets, including Western Pennsylvania."

Perhaps the best observation about the current surety market is that seasoned brokers and insurers are looking for reasons to be concerned, even as the construction market and the economy reach a peak. Those concerns may yet come to fruition but, for now, the outlook for the industry is fairly unremarkable.

"I would agree that the surety market is boring right now," chuckles Mendelson. "But ours is one of those industries where boring is good." BG



MBE / WBE COMPANY SPOTLIGHT

The 16 architects who volunteered with Project Pipeline included NOMAPGH officers Safiya Hodari (2nd from left), Victoria Acevedo, Gerrod Winston and Alicia Volcy (9th, 10th and 12th from left respectively).

At the 1971 national convention of the American Institute of Architects in Detroit, a group of a dozen African American architects met to form the National Organization of Minority Architects (NOMA) to advance the role of minorities in architecture. Today the organization has more than 500 members in 26 chapters nationwide. The Pittsburgh chapter, NOMAPGH, was formed in 2014 and has 20 members. One of the chapter's founders, Gerrod Winston from Desmone Architects, is NOMAPGH's president.

"I've lived in Pittsburgh since 2004 and there are very few minority architects in the city. I think the current ratio is under three percent. I came from environments that were more diverse – Baltimore, DC and New York – and it was apparent there a disparity in the field," Winston says. "The handful of minority architects I met when I moved here started to naturally congregate socially. The conversation drifted towards NOMA, why we don't have a chapter in Pittsburgh. In 2014, Bill Bates – who was our first president – Marvin Miller, Milton Ogot, Howard Graves, and I became the charter members. Our intent was to contribute to solving the problem of too little diversity in architecture."

Winston recalls a presentation by the president of AIA a year or so earlier that drove home the need for an intentional effort to attract minority students to architecture.

"I was sitting at the keynote address of BuildPittsburgh at the Convention Center. I looked around the room and was amazed to see that I may have been, at that point, the only black architect there. The topic of the keynote wasn't about diversity and inclusion but, at the end of the keynote, the speaker asked if there were any questions, so I asked what the AIA was doing about diversity nationally. I didn't get a good answer. That was a signal to me that we have to have better conversations around this topic. When you're in a physical environment that says something, it really speaks to you more than stats on a paper."

Winston is candid about what he saw as a lack of emphasis on including minorities in the design profession from the AIA, an organization which he fully supports.

"AIA is doing a lot more now but historically diversity and inclusion have been ignored. In the past few years there has been more discussion in the AIA about it," he says. "There is a memorandum of understanding with NOMA about active collaboration between the two organizations. We are two separate organizations but we should be talking and doing more together. I'm an AIA member but I'm also a NOMA member, so I have a vested interest in each. I feel it's changing in a positive direction. In every conference, equity and inclusion are a topic. Look, these are hard conversations to have. Some people don't want to have them. Many people who do, find them to be very uncomfortable conversations to even begin."

Besides Winston, the NOMAPGH leadership includes Alicia Volcy from IKM, vice-president, Victoria Acevedo from Bohlin Cywinski Jackson, treasurer, Safiya Hodari from AE Works, secretary.

NOMAPGH works to broaden participation and eliminate discrimination in the architectural profession. Its efforts aim to strengthen relationships among

"Project Pipeline is an all-encompassing project that NOMA promotes that is a way of engaging youth. Some chapters do a week-long camp – the more established chapters – and some are only a one-day camp. We jumped in and did a full weekend for the first time," says Winston. "We had about 40 kids. It was held in Homewood because we wanted to reach out and engage the communities that are most underserved. It was a big camp. We had 16 volunteers, about two volunteers for every five students. NOMA is a minority-focused organization but we had a diverse group of volunteers."

professionals and its membership includes designers and allied professionals. Like most professional associations, their efforts include educational sessions from vendors and members, and networking meetings. The organization also has a program that proactively brings architecture and STEM education to young minority students who might not otherwise be exposed to the built environment or architecture as a career option. That effort is known as Project Pipeline.

Project Pipeline is one of NOMA's solutions to increasing the number of underrepresented minorities pursuing careers in architecture. The program reaches out to students as young as third grade, through high school graduation.

On July 7 and 8, NOMA PGH hosted the first Project Pipeline Architecture Camp in Pittsburgh for sixth through eighth graders, along with students entering ninth grade in 2018. Project Pipeline gives students an introduction to design, and includes building a model with a professional. The two-day course provides an opportunity for students to use design to address a community-focused need.

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Awareness of architecture as a profession is one of the roots of the problem of low minority participation, especially participation among African Americans. The problem is self-fulfilling in that regard. It's a matter of access and familiarity, and most African American children don't have a neighbor or relative who is an architect. Winston notes that there were no architects of color that he saw when he studied at the University of Maryland. He says that his choice of architecture as a career was more serendipity than design.

"When I was in grade school, I got in trouble a lot for drawing during class time. One of my counselors told me I should find something where I could apply those skills, kind of a 'use my powers for good' thing," Winston laughs. "In high school when I went down

Students present their design perspectives and models at the Project Pipeline weekend.

the list of professions that would allow me to make a good living and use my creative skills, there were very few. I'm meticulous. I might be a little OCD so I kind of fell into architecture. It wasn't because I knew any architects."

NOMAPGH hopes its efforts can spark minority students to be more intentional about choosing architecture as a career. The organization lost an ally in those efforts when the grants supporting

UDream (Urban Design Regional Employment Action for Minorities) expired in 2016. UDream was an 18-week intensive program offered in the summer and fall at Carnegie Mellon University from 2009 through 2016. It gave minority students a hands-on approach to urban design with a goal of keeping them in the city.

One measure of the impact of UDream was the increase in minority architects working in Pittsburgh. Winston notes that three UDream alumni are working at Desmone and at least a handful of others, including Alicia Volcy, are part of NOMAPGH. That's a demographic change from the five founding members of NOMAPGH, four of whom were middle-aged.

NOMAPGH meets regularly throughout the year and has a handful of social events that integrate with other organizations. Pittsburgh is still not demographically diverse but the younger generation of Pittsburgh residents, especially those moving to the region, is much more diverse than the region as a whole. That should, over time, mean a more diverse pool of architects. NOMAPGH is trying to accelerate the process by exposing more minority students to the profession. Like oncologists, the architects in NOMA hope to make the organization unnecessary.

"The hope is that we do such a good job of creating a need and filling the void that we're no longer having this conversation," Winston says. BG

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THE GROWING CONSTRUCTION RECRUITMENT CHALLENGE: WHAT WE CAN BE DOING NOW TO SET THE INDUSTRY UP FOR SUCCESS

BY RAYMOND A. VOLPATT, JR. P.E.

A recent article in the Post Gazette confirmed what many of us already know. Downtown Pittsburgh and beyond is a hotbed for development and construction projects, with more than $2.2 billion in the pipeline. With at least 15 projects in the works at a value of $100 million or more throughout Southwestern Pennsylvania, it seems that the pipeline is growing at a steady pace.

The boon in construction is being felt beyond the Tri-state area and all over the United States. According to a survey conducted by the Associated General Contractors of America, 75 percent of construction firms plan to expand payrolls in 2018. Stronger economic conditions driven by tax rates and a business friendly regulatory environment were cited as key reasons.

While the news is positive for many of the firms in our area, it also presents contractors and owners with a challenge. Results from the same research went on to illustrate a pain point that many of us are dealing with on a daily basis. According to the survey, 82 percent of respondents said they expect it will either remain difficult or even become harder to recruit and hire qualified workers in 2018. In 2017, 76 percent of firms anticipated recruitment to be a challenge and so the trend continues.

If we can't recruit a strong workforce there will be consequences for our industry and our clients. Schedules will become protracted and unreliable. Labor costs will rise as fewer workers struggle to complete more construction. Our industry's ability to deliver projects on time and within budget will be compromised.

On the bright side, the research on trade and vocational jobs is positive for our industry. The U.S. Department of Education, National Center for Education Statistics reports that 85 percent of people who earn a technical or career-based associate's degree had full-time jobs compared to only 73.3 percent of those who earned a more general academic one.

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So what can we do as a community to expand our recruitment opportunities and educate tomorrow's workforce on the benefits of a career in the construction industry? Here are some of the ways we can work together to expand our pool of workers and meet the demands of a growing pipeline of projects.

Partner With Local Unions and Start Recruiting Early

Remember when you were a kid and people asked you what you wanted to be as a grown up? It's never too early to start educating young boys and girls on the values of a trade or vocational career. In partnership with our local unions, we could be hosting workshops that bring together tradesmen and women to talk about the benefits of the work they do. From helping to build the infrastructure of a community and maintaining what already exists to providing for themselves and their family, the people behind the tools and machinery are great advocates for a career in construction.

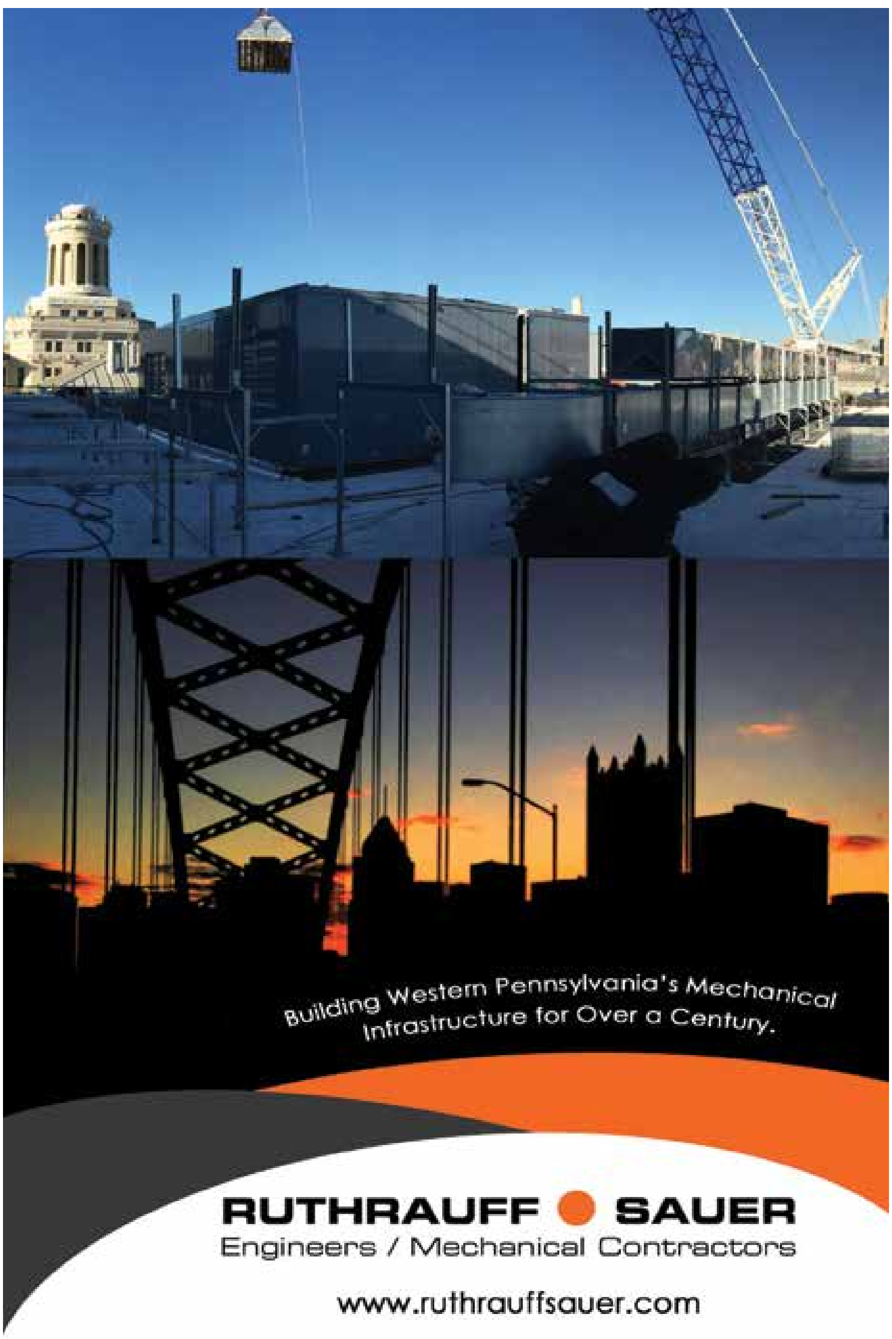
Reach Out to High Schools and Career Counselors

As we dive into the new school year, young adults in their later post-secondary years will start to think about what they want to study after they graduate. As sophomores enter into their junior year and seniors begin to get serious about their futures, high school guidance and career counselors will be on hand to give advice and direct our future workforce. As an industry, we need to start working more closely with high school guidance counselors by providing them with a toolkit to better educate future graduates on jobs in the construction industry. Not every graduating senior is interested in garnering a bachelor degree or has the wherewithal or scholarships necessary to attend college. This is our target audience and working with the people who have a connection to these kids will help to make recruitment efforts much easier.

Look Beyond the Trades

While the demand for tradesmen and women continues to linger, the industry also faces another challenge. Properly managing work in the field takes a talented pool of people in the office. Project managers, executive assistants, estimators, marketing executives, accountants, and more are all needed to see a project from bid to contract and ultimately completion. So our recruitment efforts also need to focus on these careers. While some of these jobs require a bachelor degree, others can be filled through a vocational or associate degree. Outreach focused on the planning of educational events at local schools — both university and trade/vocational — is another great way to see that we are all recruiting across the entire job continuum.

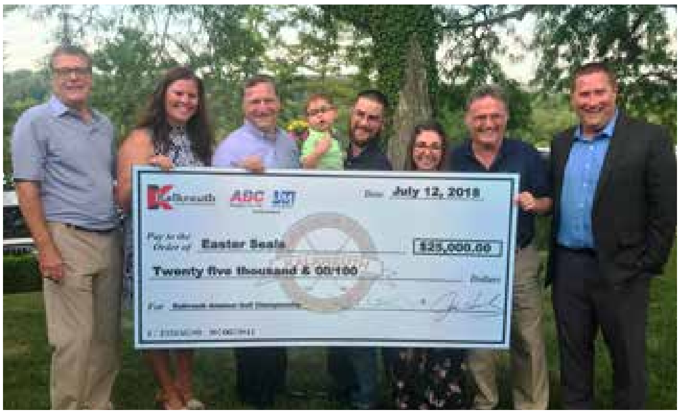
This hot construction market has elevated the recruitment challenge like few times in our memory, but the root of this challenge is a generational, societal shift in the workforce that goes beyond the needs of a building boom. The Baby Boomer generation provided the largest group of skilled construction workers in our history but the workers from that generation are retiring without a new generation trained to replace them. As an industry, our solutions to the recruiting challenge must reach beyond building out the pipeline of the next decade. We must demonstrate how rewarding a construction career can be to the young students – and their parents – who are in middle and elementary school right now.



Many of us entered the construction industry to follow our fathers or uncles but that generational transition isn't enough to build the industry's future. Construction is an industry that provides a living that can create long-term financial security. Each day, construction workers and supervisors get to see the progress that their efforts produced towards completing a project. It's time for the industry to make progress towards the goal of rebuilding our workforce. Like a day spent framing walls or laying concrete block, the investment in recruiting a future workforce won't produce results that are visible to the untrained eye. But, without laying the foundation for tomorrow's workforce today, the construction industry's future won't be built. BG

Ray Volpatt Jr. is president of Volpatt Construction. He can be reached at rayjr@volpatt.com.

INDUSTRY & COMMUNITY NEWS



Kalkreuth Roofing and Sheet Metal (KRSM) held its annual charity golf events benefitting the Easter Seal Rehabilitation Center in Wheeling, West Virginia on July 12-15. On Thursday, July 12, a vendor sponsor dinner and check presentation were held at the Glessner Auditorium located at Oglebay Resort in Wheeling, West Virginia. Easter Seals was presented with a check in the amount of $25,000 raised by Kalkreuth's annual charity golf events. Kalkreuth's vendor sponsors donated an additional $6,590 toward Easter Seals on July 13 for a grand total of $31,590. Kalkreuth has donated over $90,000 to Easter Seals over the last seven years. Pictured from left are: John Kalkreuth, president and CEO of Kalkreuth Roofing and Sheet Metal (KRSM); Jennifer Ford-Smith, director of sales, Johns Manville; Marc Kramer, district manager, ABC Supply; Derrick Cain (holding Maks Cain of Easter Seals family); Micah Cain; Jay Prager, president/CEO Easter Seals; Bill Lewis, VP of internal operations, KRSM.

Members of A. Martini & Co. supported the Michelle Goodall Charity Golf Outing, which benefits the Cystic Fibrosis Foundation. Pictured at Edgewood Country Club are (left-to-right) Zak Roberts, Angelo Martini Jr., Mike Larson-Edwards, and John Latsko.

Knoll's Andrea Korade (left) and Mollie Martini from A. Martini & Co. at the CREW Pittsburgh Property Tour on September 13.

(From left) Amanda Love from Moody & Associates, FNB's Jennifer Tyburski, Nello's Janae Shore and CREW Pittsburgh's Alicia Smith.

John Mascaro (left) and Kevin Hannegan from Gateway Engineers at the March of Dimes Transportation, Building and Construction Awards Luncheon.

(From left) Lighthouse Electric's Ryan Friday, Dave Gilbert and Todd Mikec.

Hill International's Joe Zukowski and Beth Cheberenchick from Facility Support Services.

Kevin McKamish (left), David McKamish and Naley McKamish at the American Subcontractors Association's annual golf outing at Chartiers Country Club.

(From left) Dante Fusaro, A.J. Vater's Dan Vater and Ryan Burke from Huntington Insurance.

(From left) PJ Dick's Justin Hough, Rich Yohe and Brooke Waterkotte from Easley and Rivers, and Eric Pascucci from PJ Dick.

(From left) Nathan Utz from Providence Engineering, Charlie Salazar from Gallagher, CEC's Jerry Klodowski, and the MBA's Eric Starkowicz at the MBAYC Clay Shoot.

(From left) AHN's Todd Rodgers and Brian Mathie with Landau's Jeffrey Landau and Chris Priest.

Huth Technologies' Zach Huth, Molly Huth, Cara Snyder and Jeremy Snyder from BuroHappold.

(From left) BNY|Mellon's Cassie Treshok and Sarah Swartz,with Laleh Gharanjik from Jendoco Construction.

Representing Case|Sabatini at the Constructors Association of Western PA's (CAWP) annual golf outing were (from left) Mike Sabatini, Debra Pitschman, Victoria Kurczyn and Mark Ulishney.

Russ Kohler from McCrossin Foundations (left) with CAWP Executive Director Rich Barcaskey.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AWARDS & CONTRACTS

Yarborough Development Inc. was the successful general construction contractor for the $11.4 million capital improvements program at four schools in Baldwin-Whitehall School District. The program includes renovations to Baldwin-Whitehall High School, J. E. Harrison Middle School, McAnulty Elementary and Whitehall Elementary School. The architect is HHSDR Architects & Engineers.

University of Pittsburgh awarded a contract to **Uhl Construction** for the renovation and repurposing of Room 230 in the Frick Fine Arts Building. RSH Architects is the architect.

Landau Building Company was awarded the UPMC Horizon Shenango Cancer Center Expansion, located in Farrell, PA. Landau will be constructing a new cancer center addition and completing interior renovations to connect the expansion to the existing facility. Construction is expected to be completed by March 2019. Image Associates and FMRW Engineering are the architect and engineer on this project.

Landau Building Company began renovations to Allegheny Country Club Women's Locker Room. The project includes two areas: 3,100 square feet of the Women's Locker Room and 2,300 square feet of the Staff Break Room. Both areas will undergo a complete demo of the existing space, plumbing, structure steel support, new drywall partitions, and new ceilings.

Landau Building Company started phase two of the WVU Medicine Cancer Center Renovations. The 25,170 square feet of additional construction is taking place in phases on the ground floor and first floor. Phase one was completed in May 2018 and phase two is anticipated to finish in December 2018. The architect is IKM Inc.

Landau Building Company began construction management services on the WVU Medicine Radiation Master Plan at the WVU Heart & Vascular Institute. This 16,157 square foot renovation project is multi-phased and includes areas such as the Radiology Care Center, 4D CT and Single Plane, Neurology Reading, Ultrasound, Nuclear Medicine, EKG/Stress/Echo, and Operating Rooms. The project is expected to be complete in December 2018. Harley Ellis Devereaux is the architect.

Landau Building Company was hired as construction manager for the first two phases of the 7,306 square foot WVU Medicine Rockefeller Neuroscience Institute Renovation. This project will be phased with an anticipated completion date of February 2019. IKM Inc. is the architect.

Nello Construction was the successful general construction bidder on the Dickson Intermediate School in Swissvale, Woodland Hills School District. Core Architects designed the $17.6 million, 37,700 square foot addition and major renovation.

Turner Construction Co. was selected as construction manager at risk for the $240 million UPMC Hillman Cancer Center Hospital at UPMC Shadyside. The project includes a new inpatient cancer facility at Hillman Cancer Center and new patient tower at Shadyside Hospital. The project is being designed by NBBJ and Radelet McCarthy Polletta Architects.

Giant Eagle awarded a contract to **Dick Building Co.** for construction of a new GetGo station and convenience store at 317 Old Haymaker Road in Monroeville. The architect for the 5,480 square foot new store and fuel station is DLA+ Architects and Interior Design.

Alliant Energy named **Nicholson Construction** the design/build general contractor for the Prairie du Sac Dam remediation project, located near Madison, WI. The scope of work includes the installation of close to 1,000 micropiles 250 threaded bar pier anchors, 1,274 cubic yards of excavation within the gallery and construction of a 1,394 linear-foot concrete transfer beam.

A. Martini & Co. was the successful contractor for the tenant improvements for Quintel Solutions at Two North Shore Place. The 12,975 square foot build-out was designed by NEXT Architecture.

Volpatt Construction was the successful contractor on the University of Pittsburgh's Cathedral of Learning 35th & 36th Floors Reconfiguration. The architect is Rothschild Doyno Collaborative.

UPMC awarded **Volpatt Construction** contracts for two renovation projects at St. Margaret's Hospital campus. Volpatt is renovating the Opthalmology Lab. IKM Inc. is the architect. Construction has started on the MRI 3 replacement. The architect is DRS Architects.

Carnegie Mellon University awarded a contract to **Volpatt Construction** for the 5210 Forbes Avenue demolition project.

Volpatt Construction was awarded a contract from the University of Pittsburgh for the Cathedral of Learning 8th Floor Provost office, a renovation of 6,300 square feet. MacLachlan Cornelius & Filoni is the architect on the $1.7 million project.

West Virginia University Hospital awarded a contract to **Volpatt Construction** for the installation of a new MRI unit at Ruby Hospital. The architect for the $1.9 million project is IKM Inc.

PREIT selected **Rycon's Building Group** for the multi-million-dollar redevelopment of a former Macy's at Plymouth Meeting Mall which is located northwest of Philadelphia. The scope included the demolition and renovation of an existing Dick's, Michaels, Edge Fitness, Burlington, Miller's Ale House and shell space. Construction is on track to wrap up by July 2019.

Rycon's Building Group was selected as the general contractor for the three-phased, 25,500 square foot renovation and 23,100 square foot expansion to St. Vincent College's existing Latimer Family Library. The project, designed by MacLachlan, Cornelius & Filoni, is anticipated to meet LEED silver certification.

A 23-week, $3.3 million renovation to EQT offices in Canonsburg, PA, is nearing completion. **Rycon's Special Projects Group** is the contractor and Stantec is the architect. The scope included a new gas control room with raised access flooring, video wall display systems, conference room, new kitchen/break areas, and an employee training area.

Rycon's Special Projects Group, Stantec, Cenkner Engineering, and Design Matters are the design builders responsible for renovation work for Owner EQT on the 18th and 22nd floors of EQT Plaza in downtown Pittsburgh.

PNC Financial Group/Realty Services awarded **Rycon** a CM at-risk contract to renovate six floors within the corporate office tower in downtown Cleveland with IKM Architects. Work is slated to end July 2019.

Two Southern Deli locations in Hiram and Woodstock, GA were awarded to **Rycon**. The two renovation projects are underway and range in size from 3,200 – 3,300 square feet and total over $2 million combined.

Rycon recently completed a 5,000 square foot build-out for a medical health facility, LifeStance, in Atlanta, GA. The scope included renovations to offices, clinical rooms, waiting areas, restrooms, meetings rooms, and a break room as well as MEP upgrades.

In Columbus, GA, **Rycon** is underway on $1.9 million renovations to a 60,700 square foot dealership, AutoNation Honda Columbus. The project is slated to end mid-December 2018.

At Magnolia Mall in Florence, SC, **Rycon** is completing a four-week renovation to Lux Spa for Owner PREIT.

Rycon was recently awarded a $1.3 million CM at-risk contract for a new National Tire & Battery location in Concord, NC. Work on the 7,000 square foot building is expected to wrap up in 16-weeks.

Renovations to Old Navy and Five Below at Homestead Pavilion for Owner DDR Corp are underway by **Rycon**. The $1.2 million project kicked off July 2018 and will continue until February 2019.

A $2.8 million Bealls Outlet renovation in Ft. Meyers, FL is in progress by **Rycon**. The 20,300 square foot project will wrap up mid-November 2018.

TBC Corporation selected **Rycon** to construct a new $1.2 million Tire Kingdom in Naples, FL. The 7,000 square foot project is on track to finish early January 2019.

DDR Corp. awarded **Rycon** as the construction manager for a new K-Mart shell in Brandon, FL which is west of Tampa. The $3.2 million project is 124,000 square feet and is expected to break ground mid-September 2018.

Rycon announced the opening of their fifth office in Philadelphia. Edward Szwarc has been hired as executive vice president of the new location which already has $35 million of work in the area. Ed brings 40 years of industry experience, leadership skills and client relationships to the company. Ed holds a degree in Electronic Engineering Technology from the New Jersey Institute of Technology.

Rycon ranked #27, up four spots from last year, on the ENR Mid-Atlantic 2018 Top Contractors list.

Duke LifePoint awarded **Massaro Corporation** the oncology addition project at the Conemaugh East Hills Outpatient Care Center. The one story addition will be located at 1450 Scalp Avenue, Johnstown, PA, consisting of 15, 970 square feet. The addition will include medical oncology infusion bays, exam rooms, a pharmacy, two pedestrian canopies, offices and associated support space. The architect for this project is Stengel Hill Architecture of Louisville, Kentucky.

Duke LifePiont awarded **Massaro Corporation** the new construction project of the 41,500 square foot Ebensburg Outpatient Care Center. The new one story outpatient care center will be located on an undeveloped 5.6 acre site. The new Ebensburg Outpatient Care Center will contain multiple outpatient services, including diagnostic imaging, outpatient laboratory services, rehab services, MedWELL, Corporate Care, a Primary Care Clinic, and a Timeshare Clinic in a fully sprinklered, steel framed, B Occupancy building. The architect is Stengel Hill Architecture.

Bayer Corporation awarded **Massaro Corporation** the general construction contract for its Chiller Upgrade project via hard bid for its facility in Saxonburg. The project architect is IDS Architects.

HFF Pittsburgh awarded **Massaro Corporation** the 2,000 square foot tenant fit out project for its existing space on the 11th floor of One Oxford Center. The project architect is DLA+ Architecture & Interior Design.

Hapanowicz & Associates Financial Services awarded **Massaro Corporation** its interior fit out project. The 2,600 square foot tenant improvement project is located in suite 2550 at One Oxford Center. The project architect is LGA Partners.

The City Theatre awarded **Massaro Corporation** its upcoming addition/renovation project located at 1300 and 1315 Bingham Street on the South Side of Pittsburgh. The project includes demolition of an existing structure, the renovation and new construction of a production scenic shop, including a fabrication and paint areas, offices, lounge areas, and storage structure in what was the Walter Long Manufacturing site, and the construction of an outdoor public gathering space. The architect of record is Renaissance 3 Architects.

Mascaro received a contract from St. Clair Hospital for the construction of a two-story central utility building that will assist in supporting the hospital's expansion.

Mascaro is renovating the first-floor lobby at Two PNC Plaza, which will be completed by the first quarter of 2019.

For the third straight year, **Mascaro** received the Top Work Places award from the Pittsburgh Post-Gazette. Mascaro was ranked third of the Top 30 mid-sized companies. In addition, John Mascaro, Jr., president and CEO, received the Leadership Award for mid-sized companies.

Phipps Conservatory and Botanical Gardens selected **Jendoco Construction** as construction manager for its $11 million Garden Center renovation. Rothschild Doyno Collaborative is the project architect.

PJ Dick is providing CM at Risk services for Walnut Capital for the $30 million Pittsburgh Athletic Association conversion project. Strada Architecture LLC is the architect.

Carl Walker Construction was awarded a contract by the Army Corps of Engineers for a $1 million retrofit to the Beach City Dam at the Beach City Wildlife Area in Ohio.

Carl Walker Construction completed construction of the 350-car, $6.5 million new parking garage for St. Clair Memorial Hospital in Scott Township.

F. J. Busse Co. was awarded a contract by Forest City Enterprises for the tenant improvement for the Melting Pot restaurant at Station Square.

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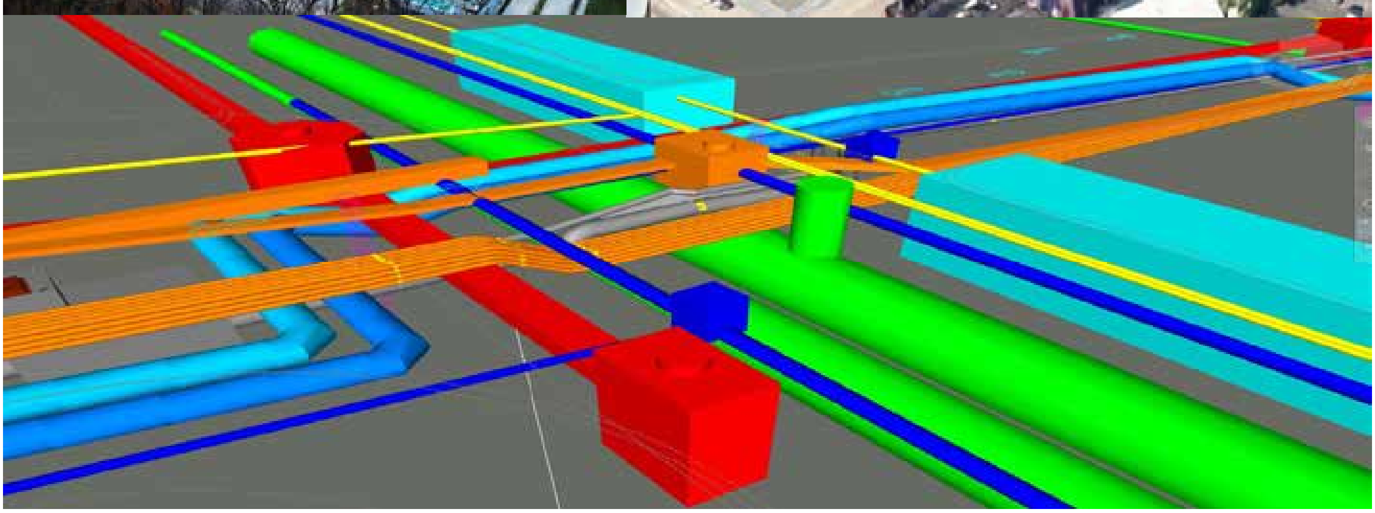

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FACES & NEW PLACES

Landau Building Company welcomed **Randy Krueger** as estimator. Krueger brings 15 years of experience as a cost estimator and project manager for commercial construction. Krueger was born and raised in New Martinsville, WV. He attended West Virginia University Institute of Technology and received his B.S. in Mechanical Engineering.

Landau Building Company announced the promotion of **Doug Brenneman** from project engineer to project manager. Brenneman started at Landau as a project engineer in 2014 and spent time in estimating learning the preconstruction process.

Mosites Construction announced that **Alisa Goodall** joined its administrative support staff. She will join the rest of the administrative team supporting project managers.

Mosites Construction announced the hiring of project engineer, **Jay Patel**. Patel graduated from Drexel University with a degree in Civil Engineering. He will be working on the City's Edge project.

Mosites Construction welcomed **Sam Reihs** as project engineer in July. Sam grew up in Medina, OH has a Construction Engineering degree from the University of Toledo. Reihs is currently working on the Homestead Bakery Lofts and RIDC 6th Floor Fit-Out projects.

C**hristina Kuczma** joined **Volpatt Construction** as accounting assistant.

Jamison Vernaillis started on September 10 as assistant marketing director for **Volpatt Construction**.

Estimator **Ralph Aguirre** was hired in Rycon's Ft. Lauderdale office. Aguirre brings over 15 years' experience to the position.

Rycon's Casework & Millwork Division added project manager **Mike Bellotti**. Mike's a U.S. Navy Veteran and has over 30 years' industry experience.

Brandon DiBello, previously an estimating summer intern, was hired full-time as a project engineer in **Rycon's** Special Projects Group. Brandon is a recent graduate from the University of Pittsburgh.

Project engineer assistant, **Kenya Finn**, joined **Rycon's** Building Group. She is a recent graduate with dual degrees in Civil Engineering from The University of Pittsburgh and Physics from Duquesne University.

Will Fisco joined **Rycon's** Special Projects Group as an assistant project manager. He recently moved to the Pittsburgh area and has three years industry experience.

Rycon's Ft. Lauderdale office welcomed **Mark Ford** as a project manager. He has 40 years' experience in commercial, institutional, and light industrial construction.

Susan Goldberg, an experienced administrative assistant, was hired at **Rycon's** Ft. Lauderdale office.

Rycon hired **Nathaniel Green** as an assistant project manager in the Building Group. He holds a degree in Architecture from Carnegie Mellon University and has more than 10 years of design/build experience.

Chris Lisowski was added to **Rycon's** Casework & Millwork Division as a project manager. He has 12 years' experience. Chris started out as a fabricator/installer and has held various positions such as draftsman, CNC programmer, and project manager.

Project Engineer **Debra Mazzola** joined **Rycon's** Cleveland office. She has over 15 years' experience and is actively involved in Cleveland's chapter of the National Association of Women in Construction.

Rycon hired **Heather Saxon** as manager, human resources.

Rycon's Special Projects Group added **Sarah Sloan** as closeout specialist.

LEED accredited professional **Les Weaver** was hired in **Rycon's** Ft. Lauderdale office. He has 30 years' experience and holds a degree from Auburn University.

Johnathan Ruby has been interning as a draftsman for the summer in **Rycon's** Casework & Millwork Division. He is a soon-to-be graduate from Pittsburgh Technical College.

Jill Sabatos joined **Rycon's** Building Group for the summer as an estimating intern. Jill currently attends Virginia Tech.

Rycon had numerous promotions. In Special Projects Group, **Scott McLaughlin** and **Andrew Redlinger** are now project managers, and Marshall Davis is an estimator. In Building Group, **Dan Stephens** and **Brandon McKee** are senior project managers, **Kim Cleckley** is a project engineer assistant, **Reese Wamsley** is a project engineer, and the following are assistant project managers: **Ryan Ernst**, **Matt Highlands**, **Chris Rombold**, and **Brian DeRuschi**. **Reid Cservak** was promoted to his new role of business development manager. In Building Group's estimating department,

Toni Peitz is now preconstruction/estimating coordinator and **Stephany DelSignore** is preconstruction/marketing coordinator. At Rycon's shop, **Bob Gild** has been promoted to director, casework & millwork.

Lindsay Ryan started August 6 in **Mascaro's** accounting department. She brings five years of construction accounting experience to the team and has a bachelor's degree from Indiana University of Pennsylvania.

Edna Eckstrom became part of the **Mascaro** team on August 13 as the warehouse accountant. Edna, who has a bachelor's degree from Lycoming College, previously worked for a Fortune 500 retail firm headquartered in Pittsburgh.

Also, on August 13, **Joe Keith** joined **Mascaro** as a preconstruction manager for the Buildings group. Joe has 36 years in the industry as project manager and estimator for commercial, institutional, and industrial projects.

Dan Slattery joined **Mascaro** on August 20 as a superintendent. Dan has over 25 years of building construction experience and has specialized in parking garage construction projects for the past 11 years.

On August 23, **Mark Zafaras** joined **Mascaro** as a superintendent. He brings 38 years of varied construction experience to Mascaro, ranging from owner of his own construction firm to project superintendent for several complex commercial and institutional projects.

PJ Dick has hired **Colin Feeney** as a project engineer. He has a B.S. in Mechanical Engineering from Catholic University of America.

PJ Dick has hired **Tyler Ray** as a surveyor. He has an A.A.S. degree in Civil Technologies and an AET in Survey Technology from Penn State University. He is also a Pennsylvania surveyor in training.

PJ Dick has hired **Fred Power** as an Enterprise Resource Planning system administrator. Fred has a B.S. in Finance and Accounting from the University of Illinois and an MBA from the University of Colorado.

PJ Dick has hired **Chris Cooper** as a project engineer.

PJ Dick has hired **Paul White** as a project manager. Paul will be based in PJ Dick's Exton office.

Nello Construction promoted **Jake McNary** to president. McNary had previously served as vice president of operations.

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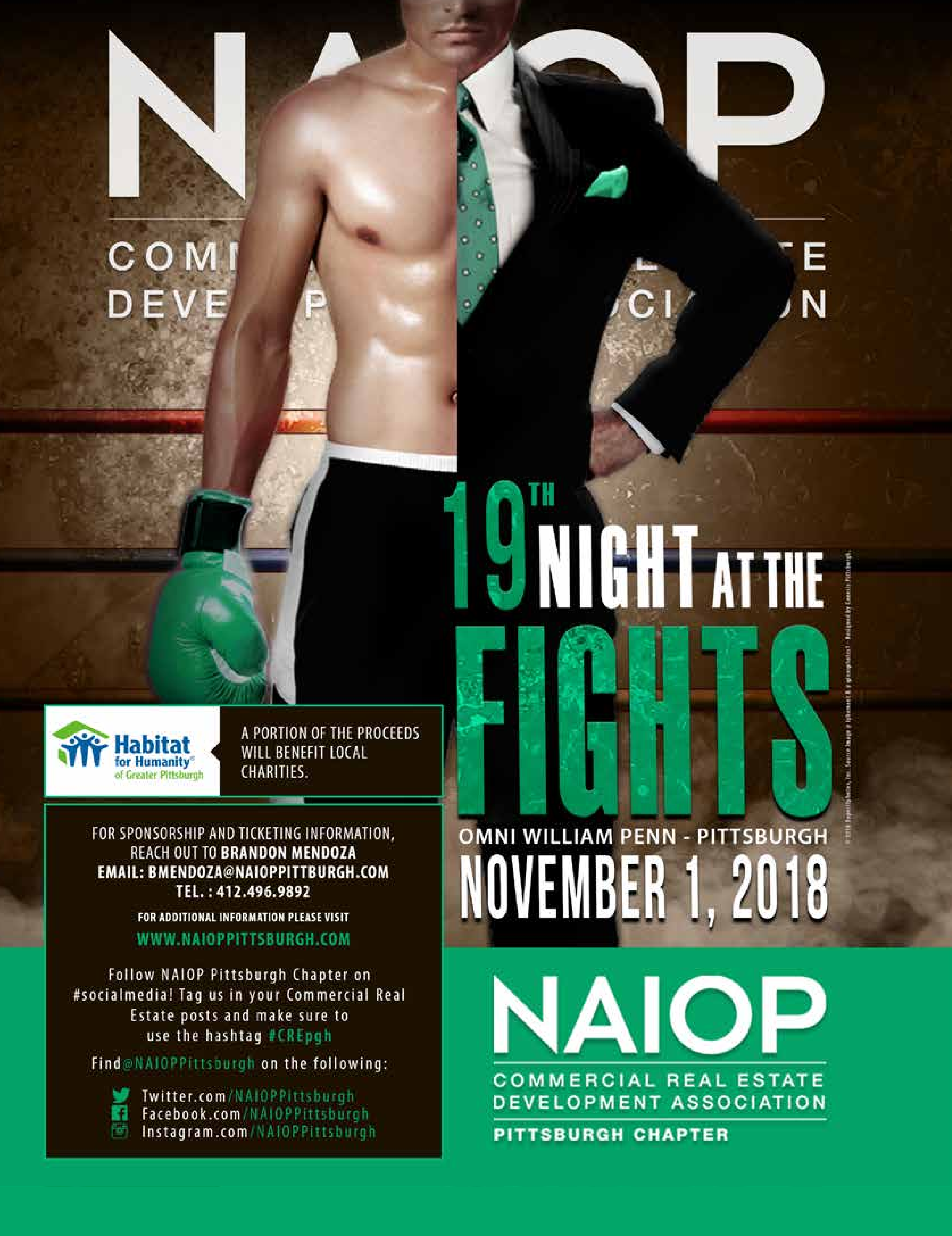
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Mascaro is one of the region's largest construction firms specializing in design-build, construction management, and general contracting. Founded in 1988 on the simple premise to deliver excellence in construction services, we bring to your project the 'Mascaro Advantage:' We are humble, hungry, and smart – not shying away from hard work and complex projects, but tackling each one proactively. We do what we say we are going to do, right, the first time. We will provide a family atmosphere, concentrating on the health and welfare of not only our employees, but also that of our clients and community. Our success is based on our market diversity, superior planning, building relationships, and, most importantly, delivering great experiences.

McKamish, Inc.

50 55th Street, Pittsburgh, PA 15201
T: 412-781-6262 | F: 412-781-2007
www.mckamish.com
John Jordan – jjj@mckamish.com

When it comes to specialty mechanical contracting, McKamish sets the bar. The Commercial Construction Group at McKamish serves customers big and small in virtually all market segments, meeting their Mechanical Contracting, Plumbing and HVAC needs. We excel at Pre-Construction and Design Assist/Build services. The McKamish Service Group thrives to optimize customer investment in new and existing building systems. A dedicated team of professional technicians, operating a fleet of vehicles, provide McKamish Service customers with around-the-clock support. Please visit our website – www.mckamish.com – to learn more about us!

PJ Dick Inc.

225 North Shore Drive, Pittsburgh PA 15212
T: 412-807-2000
www.pjdick.com
Bernard J. Kobosky | Bernie.kobosky@pjdick.com

PJ Dick – Trumbull – Lindy Paving is a Pittsburgh, PA based contracting entity providing building construction, highway, site, and civil construction and asphalt paving services. Since 1979, the companies have served a number of different owner groups including commercial, institutional, government and private equity developers. Consistently ranked among the nation's top firms, the family owned group of companies is widely considered the region's largest construction firm offering a variety of delivery systems utilizing superior expertise, equipment and innovation.

Rycon Construction Inc.

2501 Smallman St., Suite 100, Pittsburgh, PA 15222
T: 412-392-2525
www.ryconinc.com
Todd Dominick – todd@ryconinc.com

Rycon Construction, Inc. is a premier preconstruction, general contracting and construction management firm with offices in Pittsburgh, Atlanta, Cleveland, and Ft. Lauderdale. An ENR Top 400 Contractor, Rycon specializes in new construction, renovations and designbuild projects for owners of commercial, industrial, institutional, multi-unit residential and governmental buildings. Rycon's stellar reputation for quality service is built on a solid history of successful projects completed on time and on budget and an unwavering business philosophy that puts customer satisfaction first. The results are return customers and impressive company growth. The company has executed more than $3.5 billion of work and currently Rycon's revenues exceed $400 million.

DEVELOPERS

Chapman Properties

100 Leetsdale Industrial Dr., Leetsdale, PA 15056
T: 724-266-4499
www.chapmanprop.com
Steve Thomas – sthomas@chapmanprop.com

Chapman Properties is a leading provider of quality business facilities in Southwestern Pennsylvania. An award winning commercial property development and management company based in Pittsburgh, Chapman designs, builds, and operates state-of-the-art business parks with a concentration on regional distribution and industrial projects. They are best known for their redevelopment of the 2+ million square foot Leetsdale Industrial Park, and are currently developing Chapman Westport, a 2.6 million square foot master-planned mixed use business park located 3 miles from Pittsburgh International Airport on the Westport Road Interchange of PA Turnpike 576, and Chapman Southport, a 153-acre mixed use office park located on Racetrack Road in Washington County next to the Meadows Racetrack and Casino and Tanger Outlet Mall.

DOCUMENT HANDLING

Tri-State Reprographics, Inc.

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www.tsrepro.com
DJ McClary, Director of Operations
DJMcClary@tsrepro.com

Tri-State has provided printing and document management to Architects, Engineers and Contractors. Today we utilize the latest in Online Planroom Services, Scanning/Printing in both Black & White and Color. Our color division at Tri-State specializes in large format color, servicing the Sign, Advertising, and Display Markets. Our unique approach combined with our product research and years of knowledge enables us to continually present new possibilities to our clients.

ECONOMIC DEVELOPMENT

Ambridge Regional Center

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T: 724-266-4661
www.AmbridgeRegional.com
info@AmbridgeRegional.com

The Ambridge Regional Center is "Rail Served. Crane Served. Customer Served." The 85 Acre, 22 Buildings and over 1 million square foot Industrial Park in Beaver County offers a variety of Warehouse, Distribution, Manufacturing, Lab & Yard Space. Convenient to all major roadways, and only 11 miles from the future Shell cracker plant, our tenants enjoy direct access to Norfolk Southern Rail Co. service as well as on-site maintenance and logistics services, though our Con-Am Warehouse. Designations: Foreign Trade Zone, HUB Zone, Enterprise Zone, PA Act 2 Clearance.

Armstrong County Industrial Development Council

Northpointe Technology Center II
187 Northpointe Boulevard, Freeport, PA 16229
T: 724-548-1500
www.armstrongidc.org
Michael P. Coonley, AICP, Executive Director
economicdevelopment@co.armstrong.pa.us

The Armstrong County Industrial Development Council (ACIDC), established in 1968 is a private 501(c)(3) industrial development corporation. Identified as the lead economic development group within the County, the ACIDC, along with its sister organization the Armstrong County Industrial Development Authority, provides single-point-of-contact service for emerging or expanding business and industry. Owners and operators of four industrial parks, single use and multitenant facilities, the ACIDC works closely with existing or prospective businesses to identify the right location. They also provide financing assistance to companies through government loan/grant programs and private sector financial institutions.

Community Development Corporation of Butler County

120 Hollywood Drive, Suite 102, Butler, PA 16001
T: 800-283-0021 | F: 724-283-3599
www.butlercountycdc.com
Joe Saeler, Executive Director
jsaeler@butlercountycdc.com

The Community Development Corporation of Butler County (CDC) is the lead economic development organization in Butler County. The CDC is your first contact for economic development in Butler County. The CDC works closely with you to identify the right location for your business. Available land includes 30 acres at the Pullman Center Business Park Expansion. Initial lots at the Pullman site are priced as low as $50,000 per acre. All utilities are at both sites. The CDC also has financing available for real estate, equipment, working capital and lines of credit.

Fay-Penn Economic Development Council

1040 Eberly Way, Ste. 200, Lemont Furnace, PA 15456
T: 724-437-7913
www.faypenn.org
Bob Stark, Executive Director – Bobs@faypenn.org

Fay-Penn Economic Development Council is on point to grow and diversify the economy in Fayette County, Pennsylvania. We're the pre-eminent "1st stop shop" economic development organization in the county, providing comprehensive, second-to-none business development services through our staff and partners to make clients more competitive in a global marketplace. We do "traditional" economic development – rental space, pad-ready business park acreage, and financing – but also provide innovative programming to support entrepreneurs, develop leaders, and promote the business amenities of Fayette County.

Indiana County Center for Economic Operations

801 Water St., Indiana, PA 15701-1705
T: 724-465-2662 | F: 724-465-3150
www.indianacountyceo.com
Byron G. Stauffer, Jr., Executive Director
byronjr@ceo.co.indiana.pa.us

The Indiana County Center for Economic Operations (the "CEO") was established in 1994 as a county-wide public-private initiative. The CEO Affiliates include the Indiana County Commissioners, the Indiana County Chamber of Commerce, the Indiana County Development Corporation, the Indiana County Tourist Bureau, and Indiana University of Pennsylvania, whom jointly seek to support the continuous improvement and vitality of Indiana County through increased business, economic growth, tourism, education, and the quality of life in Indiana County. The CEO facilitates access to information, resources, and the delivery of integrated programs and services to assist businesses in their efforts to grow and expand.

Washington County Chamber of Commerce

375 Southpointe Blvd. #240, Canonsburg, PA 15317
T: 724-225-3010 | F: 724-228-7337
www.washcochamber.com
Mary Stollar, Senior Vice President Economic Development – marys@washcochamber.com

The Washington County Chamber of Commerce is the largest business organization in Washington County and the second largest chamber of commerce in Southwestern Pennsylvania. The Chamber focuses on economic and business development initiatives to expand the economy of Washington County and was one of the first organizations to publically support the economic benefits and job creation potential of the natural gas industry. Learn more at www.washcochamber.com.

Westmoreland County Industrial Development Corporation

5th Floor, Suite 520,
40 North Pennsylvania Ave., Greensburg, PA 15601
T: 724-830-3061 | F: 724-830-3611
www.westmorelandcountyidc.org
Jason W. Rigone, Executive Director
wcidc@wpa.net

Founded in 1983 by the Westmoreland County Board of Commissioners, the Westmoreland County Industrial Development Corporation (WCIDC) implements a comprehensive economic development strategy to promote growth in terms of job creation, economic output and a stable tax base for Westmoreland County. Through the development of a county-wide industrial park system, a responsive Business Calling Program and involvement in public/private partnerships, WCIDC strives to foster business growth, resulting in job opportunities for the citizens of Westmoreland County.

ENGINEERS

Civil & Environmental Consultants, Inc.

333 Baldwin Rd., Pittsburgh, PA 15205
T: 800-365-2324
www.cecinc.com
Gregory P. Quatchak, P.E. – gquatchak@cecinc.com

Civil & Environmental Consultants, Inc. (CEC) is a company of professionals who provide integrated design and consulting services at all points in a property's life cycle. CEC's industry experts offer a full complement of evaluation, technical and regulatory insight. Our value lies in the practical knowledge senior leaders contribute along with our broad skill-sets and desire to advance our clients' strategic objectives. We're building trust and our reputation on a local level through personal business relationships while continually assessing our environmental and economic sustainability in the communities where we practice.

KU Resources, Inc.

22 South Linden St., Duquesne, PA 15110
T: 412-469-9331 | F: 412-469-9336
www.kuresources.com
Tysen Miller – Tmiller@KUResources.com

KU Resources, Inc. provides a full range of environmental management and site development engineering services to industrial, commercial, and community based clients. The firm specializes in brownfield redevelopment, environmental site assessment, economic revitalization assistance, regulatory permitting and compliance, remediation design and implementation, and environmental risk management strategies. The firm's engineering and environmental consulting capabilities also include the areas of civil and geotechnical engineering, site development engineering, water resources engineering, mining and quarry services, water quality monitoring, and air quality compliance and permitting.

Lennon, Smith, Souleret Engineering, Inc.

846 Fourth Ave., Coraopolis, PA 15108
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Kevin A. Brett, P.E. – kbrett@lsse.com

Established in 1985, Lennon, Smith, Souleret Engineering (LSSE) is a civil engineering and surveying firm with offices located in Coraopolis (Allegheny County) and Greensburg (Westmoreland County), PA. LSSE has provided planning, surveying and design services for sites throughout Pennsylvania and Ohio, including Pittsburgh's South Side Works and South Shore Riverfront Park; an 833-acre industrial park site in Allegheny County; 50 big-box commercial sites; 20 warehouse/package delivery sites; residential developments comprising over 4,000 housing units; institutional sites; brownfield redevelopment and unique, mixed-use recreational, commercial and residential sites.

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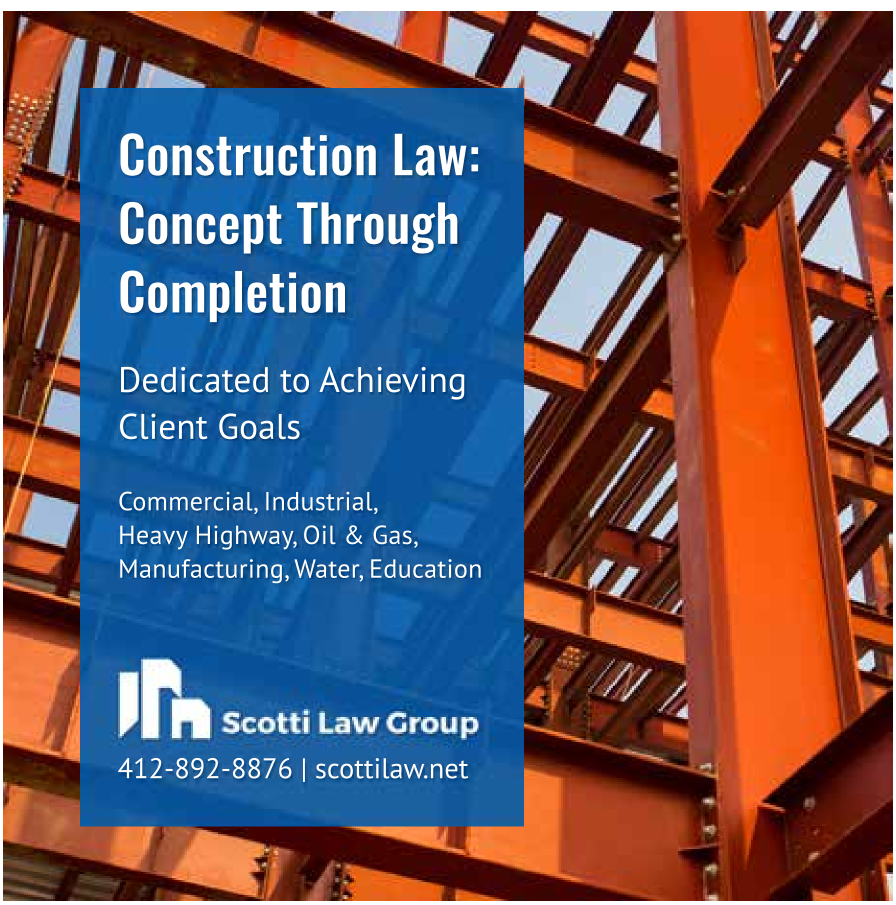
www.dewooster.com
Chuck Wooster, President
chuckwooster@dewooster.com

Since 1971, our firm has been a highly regarded and respected leader in the traffic engineering industry. We are most proud of our uncompromising integrity. Our goal is to guide our clients through the rigorous process of real estate development and assist them by correctly identifying on-site and off-site traffic impacts, develop cost effective and efficient mitigation strategies, and seek and receive municipal and State DOT approvals and/or permits. Our skills include: Traffic Engineering Studies, Highway Occupancy Permits, Traffic Signal System Design, Roadway Design, Intersection Design, and Parking Studies.



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David Weber – dweber578@dollar.bank

As your business changes, you'll need the flexibility to respond to market opportunities by purchasing equipment, expanding your facilities or increasing working capital. Your credit needs will change as your business grows, so your overall credit plan should address short-term demands as well as long-term growth. Dollar Bank's Business Banking Experts will work to understand your business and assist you in achieving your goals with the right financing for your needs. For more information, contact David Weber, Vice President Business Lending.

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Kris Volpatti, SVP – kris_volpatti@keybank.com
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As one of the nation's leading providers of commercial and multifamily real estate finance, our focus is always on building long-term relationships with new ideas and innovative thinking. So, no matter the size of the deal, KeyBank's broad financing options, integrated platform and deep industry experience gives our clients what they need to meet their short- and long-term goals. Our real estate teams support Multifamily Mortgage Lending, Commercial Mortgage Production, Healthcare Real Estate, Institutional REITs & Funds, Loan Servicing & Asset Management, Affordable Housing and Income Property Group.

PNC Real Estate

300 Fifth Ave., Pittsburgh, PA 15222
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PNC Real Estate is a leading provider of banking, financing and servicing solutions for commercial real estate clients. Our capabilities include acquisition, construction and permanent financing for developers and investors; agency financing for multifamily properties; and debt and equity capital for the affordable housing industry. And, through Midland Loan Services, we provide third-party loan servicing, asset management and technology solutions.

Rose Finance LLC

T: 412-469-0204
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Autumn Harris, Owner
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Rose Finance is a commercial real estate mortgage brokerage committed to assuring that its clients maximize capital for their projects and properties. Founder Autumn Harris is a seasoned commercial real estate finance veteran with an extensive institutional banking background combined with placing loans for a commercial real estate owner/developer giving her a very deep network. Rose Finance arranges capital for acquisition, construction, permanent and bridge financing for multi-family, assisted living, retail, office, hospitality and industrial warehouse/flex space. Harris has structured deals ranging from $5MM-$150MM with complicated, multi-layer capital stacks, including tax credits for both private developers and REITS.

GEOTECHNICAL ENGINEER

ACA Engineering, Inc.

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ACA Engineering, Inc. is an independently owned and operated geotechnical and environmental engineering, materials testing and inspection firm with offices in Pittsburgh, Mechanicsburg, and Laporte PA, and Youngstown, OH. Our engineers, geologist, draftspersons, inspectors, and technicians provide quality designs, engineering studies, surveys, and project management. Our senior staff has a combined experience of over 100 years in engineering, construction inspection, and laboratory testing. ACA maintains an in-house laboratory that has been inspected and accredited by AASHTO Materials Reference Laboratory, Cement and Concrete Reference Laboratory, and the U.S. Corps of Engineers.

INDUSTRY / TRADE GROUP

American Subcontractors Assn. of WPA

565 Callery Rd., Cranberry Twp., PA 16066
T: 724-538-8227 | F: 724-538-8227
www.asawpa.org
Angie Wentz, Executive Director
asawpa@zoominternet.net

ASA Western PA, the American Subcontractors Association of Western PA, is a non-profit organization dedicated to the representation and advocacy for the subcontractor, specialty trade contractor, supplier and service provider business community; promoting an equitable business environment through providing professional education, networking opportunities, government advocacy and influence throughout the construction industry. ASA was founded in 1966, our chapter was established in 1989. ASA of Western PA has been around for 26 years. Learn more about what ASA Western PA can do for your company by visiting our website or contacting the office.

Labor & Management • Building Our Region's Success

Builders Guild of Western PA, Inc.

631 Iron City Drive, Pittsburgh, PA 15205
T: 412-921-9000
Jeff Nobers, Executive Director
jnobers@buildersguild.org

A unique, non-profit labor/management initiative, representing 16 building trade unions and nine affiliated contractor associations. The Builders Guild is a positive forum for labor, management, and community relationships, and fosters a cooperative and productive climate for regional commercial construction development. Through the Builders Guild, unions and management have forged fair and equitable working partnerships which promote economic and professional growth.

Guild initiatives include:

- Promoting the professionalism, skill, and pride inherent with union construction;
- Training for long-term careers in the construction trades;
- Providing a reliable, skilled and diversified workforce; Facilitating diverse partnerships with like-minded organizations throughout Western Pennsylvania.

CREW Pittsburgh

P.O. Box 195
Gibsonia, PA 15044
www.crewpittsburgh.org
Admin@crewpittsburgh.org

Membership in the Commercial Real Estate for Women (CREW) Network offers unparalleled business development, leadership opportunities, and networking opportunities both in your local market and globally across our 10,000+ members in 70+ markets around the world. The Pittsburgh chapter has 20+ years of providing networking opportunities and educational programs to its members and the community. Having a global commercial real estate network at your fingertips and having your contact info in that global network have never been more important in the greater Pittsburgh region than it is now.

Ironworker Employers Association of Western Pennsylvania

Foster Plaza 9
750 Holiday Dr., Suite 615, Pittsburgh, PA 15220
T: 412-922-6855
www.iwea.org
David D. Daquelente, Executive Director
ddaquelente@iwea.org

The IWEA is a Trade Association of Union Contractors who work in all aspects of the Ironworking Trade within the Construction Industry. We are a resource for all owners, developers and contractors who are looking for a qualified contractor with a well-trained workforce. Visit our website or call our office for additional information.

Master Builders' Association

631 Iron City Dr., Pittsburgh, PA 15205
T: 412-922-3912
www.mbawpa.org

Leading the Industry, Building the Region! The Master Builders' Association represents the preferred commercial contractor in our region. Collectively, the membership accounts for over 80% of the commercial construction in our area and the MBA contractors have built over 90% of the square-footage of LEED certified buildings in the Pittsburgh region. With skilled labor, superior safety services and the latest technology, the MBA contractor is the best value.

NAIOP Pittsburgh

Rosslyn Commons
333 Baldwin Rd., Pittsburgh, PA 15205
www.naioppittsburgh.org
Brandon Mendoza, Executive Director
info@naioppittsburgh.org

NAIOP Pittsburgh is the regional association of developers, owners, investors, and professionals in commercial real estate. We are the leading industry resource to foster business relationships, promote responsible development and support growth of the region through education, leadership, and advocacy. Visit naioppittsburgh.com for additional information or contact info@naioppittsburgh.org.

INSURANCE

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T: 412.261.2222
info@simpson-mccrady.com

Simpson | McCrady is a boutique risk management firm with a tailored approach to client management services. Our firm prides itself on providing our client base with access to specialists in all areas of the insurance industry including Commercial Insurance, Private Client Services, Employee Benefits and captive risk alternatives. We strive to go above and beyond taking care of your insurance needs by providing risk management tools and solutions through our trusted vendors. As one of the largest personal and commercial insurance advisors in Pennsylvania, we have the expertise to handle any account size anywhere in the world.

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Design 3 Architecture PC

300 Oxford Dr. Suite 120, Monroeville, PA 15146
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www.d3a.com
William Snyder – was@d3a.com

Design 3 Architecture has been offering architecture, planning, and interior design services to the Pittsburgh region since 1982. We view inherent project constraints as potential opportunities for innovative design solutions. With a philosophy grounded in team collaboration, providing both personal attention and project leadership, Design 3 Architecture does more than solve problems. We provide solutions that are unique, exciting and affordable.

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Transforming ideas into reality since 1958, GAI Consultants is an employee-owned engineering, planning, and environmental consulting firm providing expertise to energy, transportation, development, government, and industrial clients worldwide. We serve highly respected global energy and manufacturing firms, transportation agencies, and national developers, as well as local communities and state and federal government. With a highly skilled staff of engineers, planners, environmental scientists, and other professionals, GAI approaches every endeavor with enthusiasm, trust, and integrity. Today, GAI employs nearly a thousand professionals throughout the United States. Get to know GAI | gaiconsultants.com outreach, and 3D visualizations.

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Red Swing Group

One Monroeville Center
3824 Northern Pike #800
Monroeville, PA 15146
T: 724-325-1215

Red Swing Consulting Services views its Clients as Partners; focusing first and foremost on building and maintaining strong relationships and trust. This mutual trust is the foundation of a solid business partnership. Red Swing offers Land Development Consulting Services to take a project from concept through construction. Red Swing has experience in Surveying, Civil Engineering, Infrastructure, Utility, and Telecommunications Projects. Red Swing effectively maximizes the return on investment through a collaborative design approach, utilizing a low impact design philosophy that reduces project capital costs and produces the competitive edge that we and our partners demand.

RIG Consulting, Inc.

100 Ryan Court #9
Pittsburgh, PA 15205
T: 412-276-2027
www.rig-consulting.com
Glen Rudzinski - grudzinski@rig-consulting.com

RIG Consulting, Inc. was established in May of 2005 and certified as a Woman-Owned Business Enterprise (WBE). We offer: Surveying and Right of Way of Services, Construction Management and Construction Inspection Services, and Design Support Services. RIG has an extensive workload partnering with Prime Consultants across Delaware, Maryland, New Jersey, New York, Ohio and Pennsylvania. In addition, RIG provides a broad range of survey and right-of-way services to public agencies, utility agencies, developers, and private entities.

LEGAL SERVICES

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Babst Calland's attorneys offer experienced legal counsel in real estate development, finance, construction, energy, environmental risk assessment, zoning and land use, tax assessment appeals, eminent domain, and other corporate and litigation services. We provide creative, pragmatic advice to developers, landlords, tenants, investors, brokers and managers of commercial real estate to help them reach their goals, through attentive service that keeps the client's bottom line in mind. From acquisition to disposition, our approach to the practice of law gives our real estate clients an edge.

Meyer, Unkovic & Scott LLP
Henry W. Oliver Building
535 Smithfield Street, #1300
Pittsburgh, PA 15222

The Real Estate & Lending Group recognizes the importance of understanding our clients' business objectives and providing timely, creative, and cost-effective solutions. We work with financial institutions, manufacturers, shopping center and mixed-use property owners, brokers, developers, buyers, sellers, landlords, and tenants. Our team handles a broad range of matters such as contract negotiation, site acquisition and development, evaluation of potential environmental issues, site planning, commercial loan closings, and zoning variances. Our team also handles land use, title insurance, residential transactions, oil and gas leasing issues and tax assessment appeals.

PROFESSIONAL SERVICES

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Since 1971, our firm has been a highly regarded and respected leader in the traffic engineering industry. We are most proud of our uncompromising integrity. Our goal is to guide our clients through the rigorous process of real estate development and assist them by correctly identifying on-site and off-site traffic impacts, develop cost effective and efficient mitigation strategies, and seek and receive municipal and State DOT approvals and/or permits. Our skills include: Traffic Engineering Studies, Highway Occupancy Permits, Traffic Signal System Design, Roadway Design, Intersection Design, and Parking Studies.

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www.avisonyoung.com
Brad Totten, Principal and Managing Director
brad.totten@avisonyoung.com

Avison Young is the world's fastest-growing commercial real estate services firm. Headquartered in Toronto, Canada, Avison Young is a collaborative, global firm owned and operated by its principals. Founded in 1978, the company comprises 2,600 real estate professionals in 84 offices, providing value-added, client-centric investment sales, leasing, advisory, management, financing and mortgage placement services to owners and occupiers of office, retail, industrial, multi-family and hospitality properties.

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Louis Oliva – loliva@ngkf.com

Newmark Knight Frank is one of the world's leading commercial real estate advisory firms. Together with London-based partner Knight Frank and independently-owned offices, NKF's 15,000 professionals operate from more than 400 offices in established and emerging property markets on six continents. With roots dating back to 1929, NKF's strong foundation makes it one of the most trusted names in commercial real estate. NKF's full-service platform comprises BGC Partners' real estate services segment, offering commercial real estate tenants, landlords, investors, and developers a wide range of services including leasing; capital markets services, including investment sales, debt placement, appraisal, and valuation services; commercial mortgage brokerage services; as well as corporate advisory services, consulting, project and development management, and property and corporate facilities management services.

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TarquinCoRE is:
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jwhite@lliengineering.com

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WESTERN PENNSYLVANIA'S REAL ESTATE CYCLE OF CHANGE

BY JACK SHELLEY

As the region encompassing Western Pennsylvania continues to participate in a technology/research-based economic transformation, changes to its demographic profile have made the commercial and residential markets both interesting and difficult to follow.

Real estate in Western Pennsylvania has always been slow to change. The companies and the jobs must come first and until now this hasn't happened often enough. However, it seems change is happening to the local economy with population and its affect on that economy still further down the road.

Indications show more of a shift than change in this form of growth. And that shift is being driven by issues such as age. An example of this is the Median Age for northern I-79/Cranberry Township and the West submarket which is greater than 38 years of age. However the Urban Core has a Median Age of less than 32. Pittsburgh's MSA population has an estimated annual growth rate of around 0.1 percent.

However, Downtown Pittsburgh has an annual population growth rate of 5.7 percent. The population growth in Downtown, between 2010 and 2017, has been 39.7 percent. This is being driven by a younger population with different social and work related goals and objectives. From 2001 to 2011, only 1,672 new multifamily units were built in Pittsburgh's Urban Core. From 2015 to 2017, over 4,500 new units were constructed in this same urban core. This change has resulted in 2,700 multifamily units in Downtown Pittsburgh and nearly 500 new units currently under construction. Meanwhile the Downtown multifamily vacancy rate is under 6 percent.

Consistent with multi-family, second quarter existing home sales for the six county areas around Pittsburgh indicate a different story. Existing home sales in the second quarter of 2016 totaled 8,937. In 2017 the total was 8,938. And in 2018 sales were 9,252. This resulted in a 3.5 percent increase in sales volume from second quarter 2017 to 2018.

Median Existing Home Price showed a similar result. Median Existing Home Price in the second quarter 2016 was $140,425. In 2017, the price was $145,000 and in 2018 the price increased to $152,000. This represented an increase of 4.8 percent between 2017 and 2018. This is an early indication of the impact of job growth for this market.

As for commercial, the change is more apparent. Because of the world-class research institutions and the technologies that are shaping the city/region, demand for state of- the- art office product located at or near the universities, medical centers and large firms is increasing. Current office requirements show high demand in this product. The urban submarkets are under pressure to design and develop buildings with patio space, focus rooms and quiet areas along with open floor areas, smaller desks and much larger communal areas including kitchens and social space to encourage interaction and collaboration.

Out of town companies such as Uber, Argo Ai, Aurora and Amazon all come to town requiring this space design be available for the employees.

Progressive companies are looking for ways to increase the productivity of the "human capital" and not necessarily focusing on just the cost of the real estate. Rental rates are increasing while relocating or renewing is an opportunity to update your workplace in order to remain competitive.

The Strip District and Oakland are showing the results of these changes. The Oakland district is less than a two square mile market. Yet it accounts for 10 percent of the city's residents and 29 percent of its jobs. Office rents continue to grow and the overall vacancy rate is less than 4 percent. Trophy Class properties are commanding rents in the $30.00 range. The overall Pittsburgh market has seen asking rents increase from $22.33 per square foot in 2013 to $27.01 in 2018 with 4.00 percent annual increases projected thru 2020.

Today, the city sits positioned to decide its own fate due to the growth of the world-class research institutions and future employment and tech opportunities that have and are being created.

For real estate, the regions success or failure to take advantage of this economic growth opportunity will require keener awareness of the change as it occurs and a steadfast adherence to the fundamental rules of real estate that got us from the "Real Estate Depression of the 80's" to now.

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