Breaking Ground

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NOVEMBER/DECEMBER 2018

COMMERCIAL REAL ESTATE OUTLOOK

MBA

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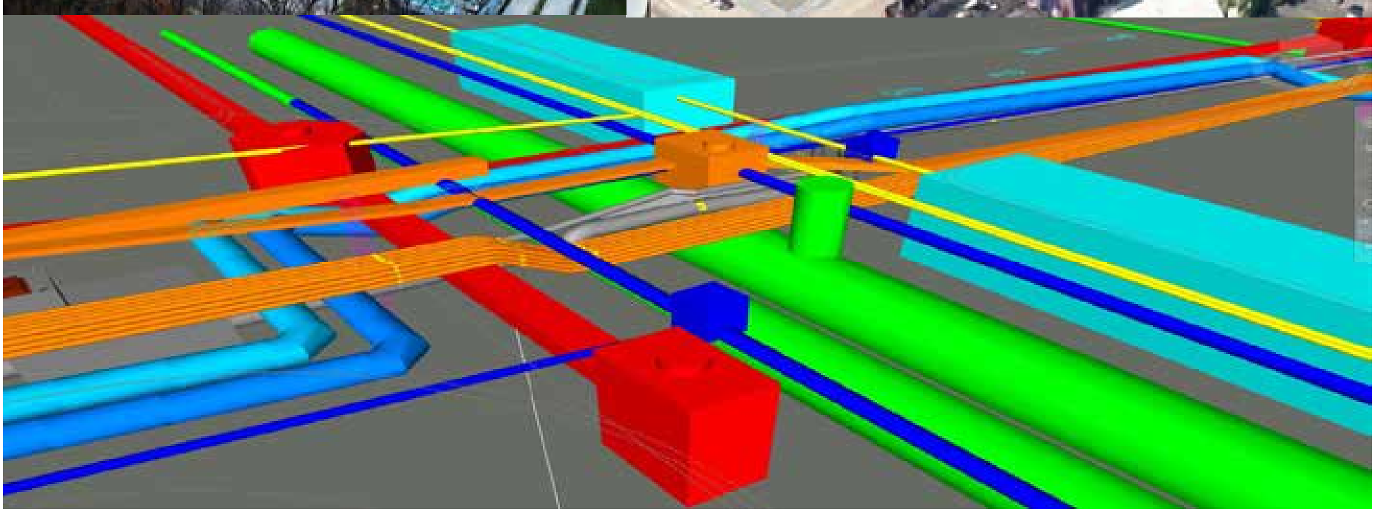

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PUBLISHER'S NOTE

The recovery started with commercial real estate. While financial institutions were roiling, no one was building in 2009. Universities were grappling with shrinking endowments and vanishing gifts. Public coffers were empty and tax receipts were declining. Commercial real estate developers were the ones that led the industry back out of the woods.

It wasn't necessarily a good thing at first. There was no momentum for anyone to build or occupy new office buildings or shopping centers or warehouses. But, because of the fact that the great recession had made renters out of many homeowners, there was a growing market for apartments. This is where the developers stepped in.

What is often misunderstood about developers is that they need to develop in order to maintain their business. For Western Pennsylvania business people the developer market is somewhat different than in other cities. There are fewer transactional developers, firms that make their money by developing buildings, stabilizing the rent performance and selling them. That is usually a cycle that takes a few years. Developers use the fees they get for development as a revenue stream that covers overhead. So if they are not developing, there isn't a lot of revenue coming in to keep the lights on and pay the staff.

With that being said, there comes a time in the business cycle when smart developers keep their powder dry. The potential risk of developing a project ahead of a recession offsets the need for fee revenue. Ten years after the financial crisis, you might expect to see signs that the smart or safe money was starting to head to the sidelines, but that isn't the case. As you'll read in the feature article, commercial real estate developers are as bullish now as they have ever been. And with what is going on in the Pittsburgh economy, it may be a time for developers to lead the way again.

Economists and academics have been putting forth the theory that we are in the midst of the fourth industrial revolution. Lance Chimka, the new executive director of the Allegheny County Economic Development department, made a presentation about this at the October 18th NAIOP Pittsburgh chapter meeting. He noted that the first two industrial revolutions made Pittsburgh what it was, while the third brought the region to its knees. Now, 30 years later, the fourth industrial revolution is growing out of the technological advances that are coming from Pittsburgh institutions and companies. Getting the fourth industrial revolution right will boost Pittsburgh's economic fortunes for generations to come.

Many of the elements are in place to ensure that Pittsburgh's innovations drive thousands of jobs and hundreds of new businesses. One element that is not, is adequate real estate.

Businesses in the emerging technologies like autonomous vehicles, robotics and artificial intelligence have made many of the business headlines over the past few years and those companies have filled the successful projects like Bakery Square, 3 Crossings, RIDC's Lawrenceville properties and, now, Mill 19 at Hazelwood Green. These successes represented the seeds of the fourth industrial revolution and when those seeds grow there will need to be a different kind of development environment. We're going to need spec buildings.

Tech companies, particularly in emerging technologies, need flexibility and rapid response as they grow. Uber's growth in Pittsburgh is a good example of how quickly a new company can require 30,000 square feet one year and 500,000 square feet two years later. The inventory of buildings that can adapt to that kind of growth was limited and is even more so now. To put the region in the position to accommodate the next ten 0-to-100 MPH company, there needs to be space available. That means spec buildings. And it means doing business differently.

Spec is hard to do and we don't see much of it in Pittsburgh. Some of that is on the developer community, which is more conservative in Pittsburgh. Mostly, though, the absence of spec development comes from the lack of growth over the past couple of decades. That means lenders aren't particularly interested in financing spec. Appraisers aren't accustomed to viewing spec buildings, which are currently getting significantly higher rents than "comparable" older buildings. Design and construction of spec buildings has to be faster and more flexible. There are a lot of "normals" that will have to be forgotten if development of spec buildings for the emerging, fast-growing tech users is to match the demand.

Those users don't care about how long it takes to get an NPDES permit or go through planning commission. They don't care that it's difficult to build in the winter. They care that there is space for them to thrive right now. That's not fair, but if that space isn't ready for them in Pittsburgh, they will find someplace else where it is.

There is no easy button for this. Developers take risks and if building speculatively seems too risky, they can't be forced to do so. Ordinances and regulating bodies don't easily change. None of that changes the reality that there isn't the inventory of space to accommodate exceptional success and growth for these emerging technology enterprises. A lot has been done to encourage and nurture exceptional success and growth. It will be a shame if the opportunity to become the home for the winners slips by Pittsburgh because we didn't change our attitudes from reacting to anticipating demand.

Jeff Burd

REGIONAL MARKET UPDATE

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Readings on the Pittsburgh economy saw some clouds in the otherwise blue-sky picture of revitalization and expansion. As has happened in the past few years, job creation numbers from the first half of the year have given way to a slower pace of hiring as the year ends. The potential slowdown in employment growth has not been manifest in the construction industry, which is in the midst of a record year and full employment.

Data from the third quarter showed that the residential construction market in Pittsburgh remains steady, but not adequate to meet demand, and non-residential/commercial activity on pace to top $4.5 billion for the year.

The underlying story for Pittsburgh's housing market is the same as it has been for several years: too little inventory. Data from West Penn Multi-list and multiple real estate service companies shows the median price of home sold in metropolitan Pittsburgh rising somewhere between five and eight percent year-over-year. The number of homes sold is up slightly but transactions aren't keeping pace with demand, as evidenced by the ever-shrinking number of days on market and the supply of homes for sales, which has fallen to three months. In normal market conditions, a five-month supply of homes for sale represents equilibrium between demand and supply.

BENCHMARK	Jan-Oct 2018	Jan-Oct 2017
Total SFD units	1,771	1,599
Total SFA/Multi-unit	1,788	2,358
Total residential $$	$1.153 billion	$1.19 billion
Total non-residential $$	$4.24 billion	$3.76 billion
K-12 additions/renovations	$194.9 million	$152.6 million
Higher Ed construction	$207.4 million	$109.3 million
Hospital construction	$731.5 million	$156.4 million
Hotel construction	$55.4 million	$67.6 million
Industrial construction	$1.352 billion	$673.2 million
Office construction	$361.7 million	$496.8 million

For homeowners, these dynamics mean rising prices. For the first-time buyer, or even move-up buyer, the conditions mean that the home they plan to buy is becoming less affordable. Such market conditions historically provide the impetus for a construction boom, but the limited inventory of new development lots is holding new construction growth back.

Even with the constrained lot inventory, construction of new single-family detached houses was up more than ten percent during the first three quarters of 2018, compared to last year. From January through September, there were permits for 1,629 new single-family detached homes. Permits were issued for 1,471 such homes during the same period in 2017, according to the October 15 report from the Pittsburgh Homebuilding Report. Construction of all single-family homes, including townhouses, was up only 1.4 percent year-over-year, with 2,212 units started during the first nine months of 2018. The overall housing market was off 9.5 percent from the first three quarters of 2017.

Construction of multi-family units plummeted, on a percentage basis, from 2017 to 2018. There were 1,099 apartments and condos started during the first three quarters of 2018. That represented a 25.5 percent drop from the 1,476 units started during the same period in 2017. Data from Pittsburgh Homebuilding Report covers only new construction, not adaptive re-use, but the proportion of new to re-use has been consistent year-to-year. Activity in 2018 has been lower but within the expectations of observers of the multi-family market, which has seen significant new construction since 2013. The decline thus far in 2018 has been equivalent to roughly one major apartment complex, hardly a sign of overbuilding. As the lending appetite for multi-family has cooled since 2016, it was expected that the apartment market would hit pause in 2018. The fundamentals of the market remain solid. Vacancy rates are the same or slightly softer. Rent increases are occurring in well-positioned properties but rents have softened in some sub-markets. With hiring strong in the demographic group most likely to rent, and demographic support growing in the empty-nester cohort, demand for apartments remains solid.

The smaller number of new units entering inventory in 2019 and early 2020 should create space for more construction next year. There are sufficient projects in the pipeline to indicate that new construction could top 2,000 units again in 2019.

In the non-residential/commercial sectors of the Pittsburgh market, construction activity has kept pace with expectations. Through September 30, contracting and starts reached nearly $4.1 billion in the seven-county Pittsburgh metropolitan statistical area (MSA). Based upon the pipeline of activity, construction in the region should approach $5 billion for the full year. That's a level that has not been reached in Pittsburgh.

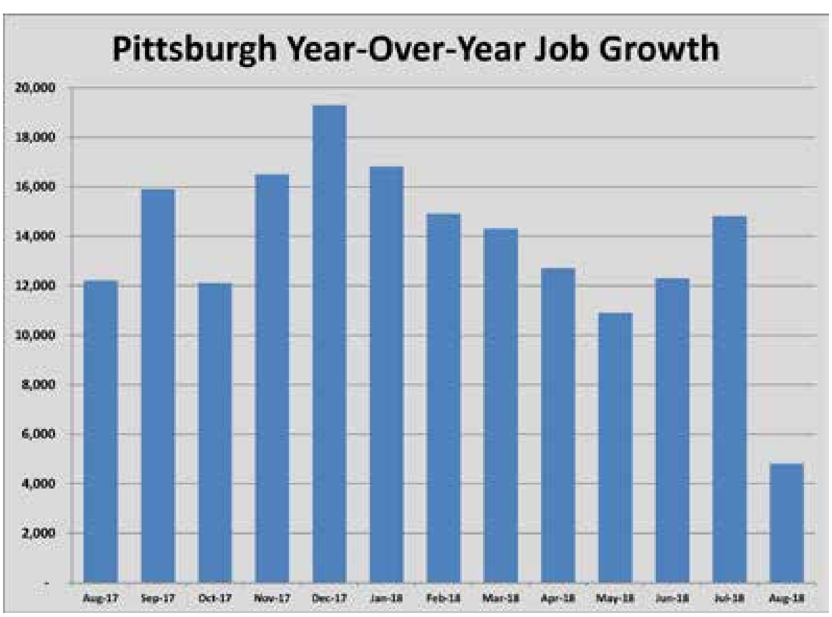
Within the non-residential/commercial market, activity within individual market sectors has been consistent with forecasts. Construction is higher in every sector of the market, with the exception of hotels (off $12.2 million) and offices (off 27.2 percent).

Improved hiring has provided support for office construction - both new and increased tenant improvement work - that has increased throughout the year, although year-to-date still lags 2017. The growing strength of the office market has sparked speculative development, which has mostly been missing from the Pittsburgh market. Developers Burns & Scalo Real Estate, Elmhurst Group and Walnut Capital all have major significant spec office buildings under construction in both urban and suburban locations.

Industrial construction is also stronger year-over-year, as increased activity in the logistics market and a few one-off surprises have boosted industrial construction spending to $1.4 billion and 2.4 million square feet.

Construction in the energy sector has declined somewhat since 2016-2017, but activity remains much improved since the slowdown that followed the 2014 price collapse for oil. The smooth construction progress of Shell's Franklin project in Monaca bodes well for this sector to grow over the next five-to-ten years, although the energy sector is not influencing current construction as much as hoped for right now. Two of the one-off projects under construction, the 507,000 square foot warehouse being developed by Scannell Properties for Shell's lubricants division and the 465,000 square foot bottling facility for Niagara Bottling, were originally thought to be driven by the coming availability of cheap polyethylene from Shell's Franklin plant. In both cases, however, the demand for the space was driven by the companies' existing customers in Western PA. Progress on the cracker should begin to drive site searches in 2019.

The region's biggest industrial project falls outside the boundaries of the Pittsburgh metropolitan area (and is not represented in the figures above). Urban Outfitters decision to build an 863,000 square foot fulfillment center in Indiana, PA is an indication that the push to reach same-day delivery on consumer online purchases is driving logistics to have a broader footprint, meaning that secondary logistics markets like Pittsburgh will see increased activity from online retailers and distributors. Major projects like the centers built for FedEx Ground, UPS, Berlin Packaging, Amazon and others, have already been completed in Pittsburgh. Even though Amazon has yet to start (or publicly acknowledge) the million-square-foot fulfillment center it has proposed at Chapman Westport, announcements like Urban Outfitters bode well for more projects like Amazon's.



Of course, the institutional market has made the most noise in 2018. Construction activity has doubled in higher education and grown by nearly five times in healthcare projects. The volume in 2018 reflects only a couple of the major projects announced by the region's hospital systems and universities. By this time in 2019, there will be more than twice as much healthcare construction underway from this elevated level.

Construction at the region's higher education institutions is ramping up. The first elements of the University of Pittsburgh's ambitious $400 million athletic facilities upgrade and expansion program have hit the streets. Penn State's ongoing $5 billion capital program includes several major projects being

By County	SFD	SFA	M/F	Total
Allegheny	775	306	867	1948
Beaver	58	22	144	224
Butler	364	124	0	488
Fayette	42	4	0	46
Washington	229	99	88	416
Westmoreland	161	28	0	189
Total Pittsburgh MSA 2018:3	**1,629**	**583**	**1,099**	**3,311**
Total Pittsburgh MSA 2017:3	**1,471**	**710**	**1,476**	**3,657**
% Change	**10.7%**	**-17.9%**	**-25.5%**	**-9.5%**

The decline in multi-family development is more than offsetting the growth in new single-family construction, resulting to a year-over-year drop in new housing units. Source: Pittsburgh Homebuilding Report.

procured in October/November. The $52 million James Building replacement is out for construction management proposals, as was the $14 million Ostermeyer Lab Building at the Greater Allegheny Campus in McKeesport. One of PSU's most ambitious projects, the new $310 million College of Engineering West 1 and West 2, was released for architectural proposals. Duquesne University announced that it was investing $45 million to renovate and rename the Palumbo Center to the UPMC Cooper Field House. Carnegie Mellon was also selecting a construction manager for its new $32 million Fifth and Clyde residence hall. CMV also announced the receipt of a $30 million gift from the Allegheny Foundation, which will help fund the new $75 million home for the mechanical engineering school.

The foundation for the current state of construction economics in Western PA is the strong state of the economy overall in Western PA.

Unemployment in the metropolitan Pittsburgh area declined to 3.9 percent, slightly higher than the U.S. level of unemployment but lower than it has been for more than 30 years. Butler County and Allegheny County had unemployment rates below the MSA mark, at 3.6 percent and 3.8 percent respectively. The number of unemployed people dropped dramatically in Pittsburgh, from 59,156 in August 2017 to 47,753 in August 2018. In large part that 19.6 percent drop was due to a .6 percent decline in the workforce due to retirements. The year-over-year employment growth slowed in August, with 4,800 jobs added since August 2017, and September's hiring gains of 8,800 did not allay concerns that job growth would remain inhibited.

Average weekly wages in Pittsburgh were 3.2 percent higher than the previous year. That's a smaller increase than the 4.0 percent average of the benchmark cities to which Pittsburgh is compared, but higher than the 2.8 percent gain nationwide.

Employment growth in the fourth quarter will be an important measure of Pittsburgh's sustained progress. Strong monthly gains in employment during the latter months of 2017 pushed employment growth for 2017 above one percent, following four flat years. If the moderating gains of the late third quarter become the norm, job growth for 2018 will likely fall below one percent. That's a level that is unattractive to outside investors and developers. Employment growth is a problem for the regional economy's long-term health, however. The forces propelling the construction industry into 2019 will not be stopped by tepid employment gains. Only tight labor and unusual inflation loom as threats to the market. BG

NATIONAL MARKET UPDATE

Construction spending in September, the most recent month reported by the Census Bureau, bumped slightly higher than the revised August total. Spending on construction in the U.S. was $1.329 trillion in September, an increase of $12 billion over August and a 7.2 percent increase compared to September 2017. Within the spending report, there was unusual stability in the activity of the major sub-categories of construction, an indication that the economy is a rising tide that is lifting all boats.

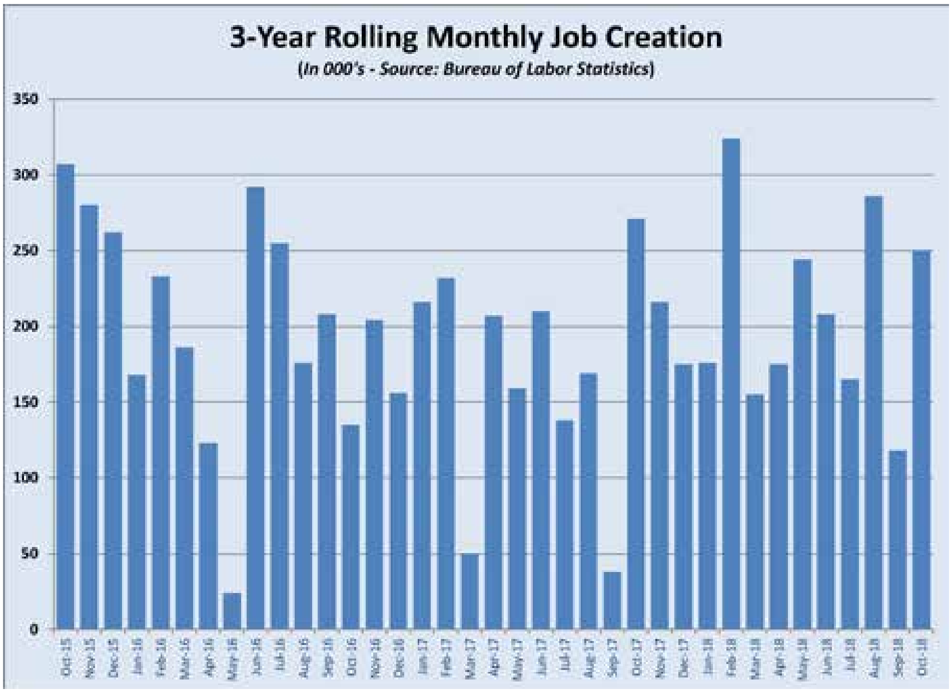
Compared to one year earlier, public construction spending stood out as an outlier, jumping 11.0 percent year-over-year. Construction volume was 6.1 percent higher for private spending, 5.1 percent higher for residential investment, and 7.2 percent higher for private non-residential spending. No major sub-category saw a year-over-year decrease. The only cautionary note is that the Census Bureau data is seasonally adjusted but not adjusted for inflation. In light of the significant spike in material prices that began in May 2018, the increase in volume may be attributable as much to inflation as growth in demand.

As a reflection of economic demand, however, the increase in construction activity in 2018 seems to fairly mirror the growth in economic activity, consumer and business confidence. That confidence is borne out by increases in business investment and consumer spending. And the underlying strength of the economy, as always, is in the labor market.

September's jobs report had a disappointing headline of 134,000 new jobs, but the underlying data represented an extremely strong economy and labor market. That strength was reaffirmed in October's hiring, which rebounded solidly to 250,000 jobs. The November 2 report from the Bureau of Labor Statistics showed that employers were continuing to add to the workforce. U.S. employers have added an average of 211,000 workers per month during the past 12 months. The unemployment rate remained at 3.7 percent, the lowest sustained unemployment rate since 1969.

Sectors with the largest gains were healthcare (36,000), professional and business services (35,000) and manufacturing (32,000). Manufacturing, long a drag on employment, is in the midst of an extended upward trend, adding 296,000 jobs since October 2017. Construction (30,000) and transportation and warehousing (25,000) were the other sectors that saw gains of more than 25,000 workers. Construction is one of the strongest sectors in year-over-year gains, adding 315,000 jobs in the past 12 months.

Perhaps the most impressive gain in October's job market was in hourly wages, which jumped 3.1 percent year-over-year to $27.50 for all non-farm employees and to $22.89 for private sector and non-supervisory employees.



There was an increase in labor participation of 0.2 percent, with the participation rate for prime working age (25-to-54 years old) climbing to 82.5 percent. This data gives reason for caution about the potential for sustained hiring growth.

The total number of unemployed persons fell to 6.1 million, a decline of 795,000 from September 2017. There was little change in the number of marginally-attached workers and those workers categorized as discouraged, meaning that they were not looking for work because of a lack of opportunities. This suggests that there is no remaining slack in the labor force. If true, that assumption could explain the lower hiring in September. It could also signal that employment gains closer to the 100,000 mark will become the norm going forward. While slower employment growth will not reflect the strength of the economy at first, the full employment status will begin to be a drag on growth, as companies will be unable to add capacity without adding workers. If this becomes the trend, low unemployment will become a drag on gross domestic product growth by the latter half of 2019.

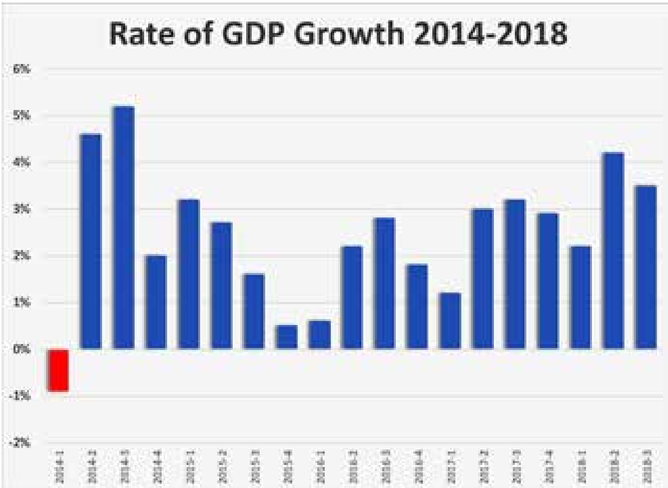
"The total number of unemployed persons fell to 6.1 million, a decline of 795,000 from September 2017."

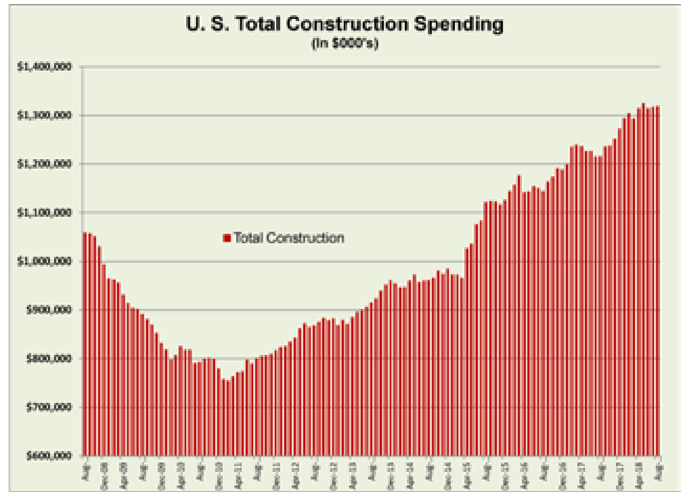
The Federal Reserve Bank appears to be considering that limitation in its forecast for 2019 GDP growth, which it pegs at 2.0 percent. That's a decline from what the Fed expects will be a 2.8 percent jump in GDP in 2018. The final estimate of GDP growth for the second quarter by the Bureau of Economic Analysis (BEA) – unchanged from the second estimate at 4.2 percent – seems to make the Fed's 2018 forecast likely. The September 27 report from the BEA also verified that GDP growth in quarter one was 2.2 percent. GDP growth was driven higher in the second quarter by higher inflation and a jump in exports that was timed to beat tariffs. The same report found corporate profits had jumped by $65 billion in the second quarter (compared to $26.7 billion in the first), with profits of non-financial domestic corporations leaping $53 billion, an increase of 64 percent compared to the first quarter. Further evidence of strength of the economy came from the BEA's October 26th first estimate of third quarter GDP, which came in higher than expected at 3.5 percent.

It's clear from the Fed's Open Markets Committee (FOMC) minutes that concerns about an overheating economy are greater than worries that higher interest rates will slow down growth. In raising rates 25 basis points in late September – the eighth such rate hike since December 2015 – FOMC members saw the extremely tight labor market, strong consumer confidence and spending, and modest inflation as signals that the economy was more than strong enough to withstand higher interest rates. Barring some thoroughly unexpected economic shock, a fourth 25 point hike is expected in December, with at least two more hikes contemplated in 2019.

While the higher interest rates have thus far done little to dampen borrowing, the increases have heightened the risk to the economy from tighter fiscal policy. For those who weigh the relationship between long- and short-term interest rates as an economic signal, the Fed's actions bring the yield curve dangerously flat. Further hikes in 2019 could lead to an inverted yield curve – one where short-term rates are higher than long-term rates – and that will elevate fears of a slowdown to follow. An inverted yield curve is far from a foolproof indicator, however, and the U.S. economy appears to be rolling higher in spite of tighter fiscal policy.

Treasury markets may have been responding to this imbalance when the 10-year bond yield jumped 25 basis points in late September/early October. The bond market was likely reacting to the bevy of strong economic data from September and buying into the Fed's fiscal guidance. At 3.25 percent, where the rally peaked, the cost of borrowing should not discourage investors or developers from commercial real estate. Notwithstanding the stock market selloff that coincided with the run up in Treasury yields, interest rates below four percent should not drain investors from stocks either. The jump in rates did push 30-year mortgage rates above five percent for the first time since 2010.





That's a psychological barrier that could dampen home buying, even though the real cost impact is minor. Of greater concern is the long-term interest trend, which has moved about one full percent during each rally since the Fed began tightening rates. At six percent for 30-year debt, mortgages will become unaffordable for some buyers.

There are some early indications that the housing market is slowing, whether due to the prospect of higher borrowing cost or not. The National Association of Realtors' October 19 report on existing home sales showed a decline for the fifth straight month in September. The slowdown to an annual rate of 5.1 million homes was the lowest rate in three years; and it was enough of a decline to boost inventories of homes for sale by 1.1 percent. The October 17 report on housing starts showed a 5.3 percent decline from August to September, which eroded the year-over-year increase to 3.7 percent. Construction gains were roughly equal for both single-family units (up 4.8 percent) and multi-family units (up 4.2 percent). Permits approved in September were up 4.1 percent. Year-to-date data for new home construction is consistent with a market that is growing at a slower rate than in the past few years.

Recent Trump Administration actions both moderated and exaggerated another area of risk to the current economic cycle, U.S. trade policy.

The ten percent tariff placed on an additional $200 billion of Chinese goods on September 24 triggered another round of corresponding tariffs on U.S. goods going to China. The tariffs, along with the administration's tough rhetoric and unproductive negotiations, have begun to have a negative impact on U.S. businesses. According to JLL's chief economist, Ryan Severino, "trade tensions will likely drag on GDP growth by roughly 50 basis points over the next 12-15 months." Of growing concern to U.S. companies with operations in China is the potential for the Chinese government to take punitive action against individual corporations, as occurred in the early years of U.S. investment there. The Xi administration has shown more willingness to take stronger actions to protect Chinese interests and strategically damage U.S. interests than its predecessor.

Closer to home, the completion of an agreement between the U.S., Mexico and Canada to replace NAFTA brings a sigh of relief to U.S. businesses, particularly manufacturers. Had NAFTA simply disintegrated there would have been significant damage done to the supply chain for U.S. manufacturing. Beyond the negative impact on U.S. manufacturing, a disrupted supply chain would have roiled the markets for major consumer products and durable goods like automobiles. The United States-Mexico-Canada Agreement prevented another trade disagreement from dragging the economy.

Electoral politics is perhaps the one potential shock that could pause the economy going into 2019, but even a strong agenda by a Democratic Congressional majority is unlikely to include policies that could damage the economy. There could be some dimming of business confidence, given the strong pro-business policies of the Trump Administration, but it's more likely that a Democratic agenda would include infrastructure investment that would drive construction activity higher still in the next year. BG

WHAT'S IT **COST?**

Six months after the introduction of the first tariffs on steel and aluminum (and nearly one year after action taken on Canadian soft lumber), the impact on construction is both very clear and difficult to quantify.

Since the May 2018 reading on producer price indexes (PPI) related to construction, year-over-year inflation on inputs for construction remains elevated. In the five months measured since then, inflation has been above eight percent higher than in the same month of 2017. Much of this increase has come from the anticipation of tariffs, as the actual tariff calculations on most finished products have not been completed. Many manufacturers hiked prices about 15 percent as soon as tariffs were announced as a hedge against what the heightened costs of components and raw materials would be. Further, a number of products unaffected be tariffs also saw increases, as manufacturers and distributors seized on the opportunity to push the market higher after an extended period of pricing pressure.

In September, the Associated General Contractors of America (AGC) issued its analysis of the tariffs, which understandably included little assessment of the exact impact. Some of the detailed analysis of the impact done by other associations was somewhat inconclusive. Assessments of the impact on jobs ranged between 10,600 and 66,000 construction jobs. The National Association of Homebuilders estimates that the price of the tariff-affected products would raise the material cost of a new home by ten percent, but its estimate of the impact on home prices was $9,000 more for single-family houses and $3,000 per apartment unit.

The Bureau of Labor Statistics (BLS) data on September's inflation, which was reported on October 10, was consistent with the trends of spring and summer. The BLS report showed month-to-month inflation slightly higher again, with year-over-year increases still in the seven-to-eight percent range. In other words, the spike in May was something of a one-time jump that has become the new plateau for construction prices.

In September, the producer price index (PPI) for inputs to construction industries increased 0.2 percent from August and 6.2 percent since September 2017, while the index for goods excluding services rose 7.4 percent year-over-year. Materials that had significant inflation from September 2017 to September 2018, diesel fuel

PERCENTAGE CHANGES IN COSTS	Sept 2018 compared to		
	1 mo.	3 mo.	1 yr.
Consumer, Producer & Construction Prices			
Consumer price index (CPI-U)	0.1	0.2	2.3
Producer price index (PPI) for final demand	0.1	(0.2)	2.6
PPI for final demand construction	0.1	0.6	3.4
Costs by Construction Types/Subcontractors			
New warehouse construction	0.3	0.7	2.8
New school construction	(0.1)	0.4	3.1
New office construction	0.1	0.8	4.0
New industrial building construction	0.1	0.8	3.7
New health care building construction	0.0	0.5	3.6
Concrete contractors, nonresidential	0.3	0.8	4.4
Roofing contractors, nonresidential	0.2	0.1	1.0
Electrical contractors, nonresidential	0.1	1.2	4.3
Plumbing contractors, nonresidential	0.2	0.5	3.0
Construction wages and benefits		1.9	3.0
Architectural services	(0.1)	(0.1)	(1.1)
Costs for Specific Construction Inputs			
#2 diesel fuel	4.4	0.8	29.3
Asphalt paving mixtures and blocks	0.6	3.9	11.2
Cement	0.2	0.5	2.3
Concrete products	0.3	(0.6)	3.8
Brick and structural clay tile	0.0	(0.1)	1.8
Plastic construction products	0.0	0.2	3.8
Flat glass	0.2	(0.3)	2.9
Gypsum products	(0.5)	3.6	7.9
Lumber and plywood	(1.2)	(8.8)	5.5
Architectural coatings	0.1	0.7	4.5
Steel mill products	0.0	4.3	18.1
Copper and brass mill shapes	(1.0)	(11.7)	(8.9)
Aluminum mill shapes	(0.3)	(5.3)	10.7
Fabricated structural metal	(0.2)	(4.7)	11.7
Iron and steel scrap	(6.8)	(12.8)	3.0

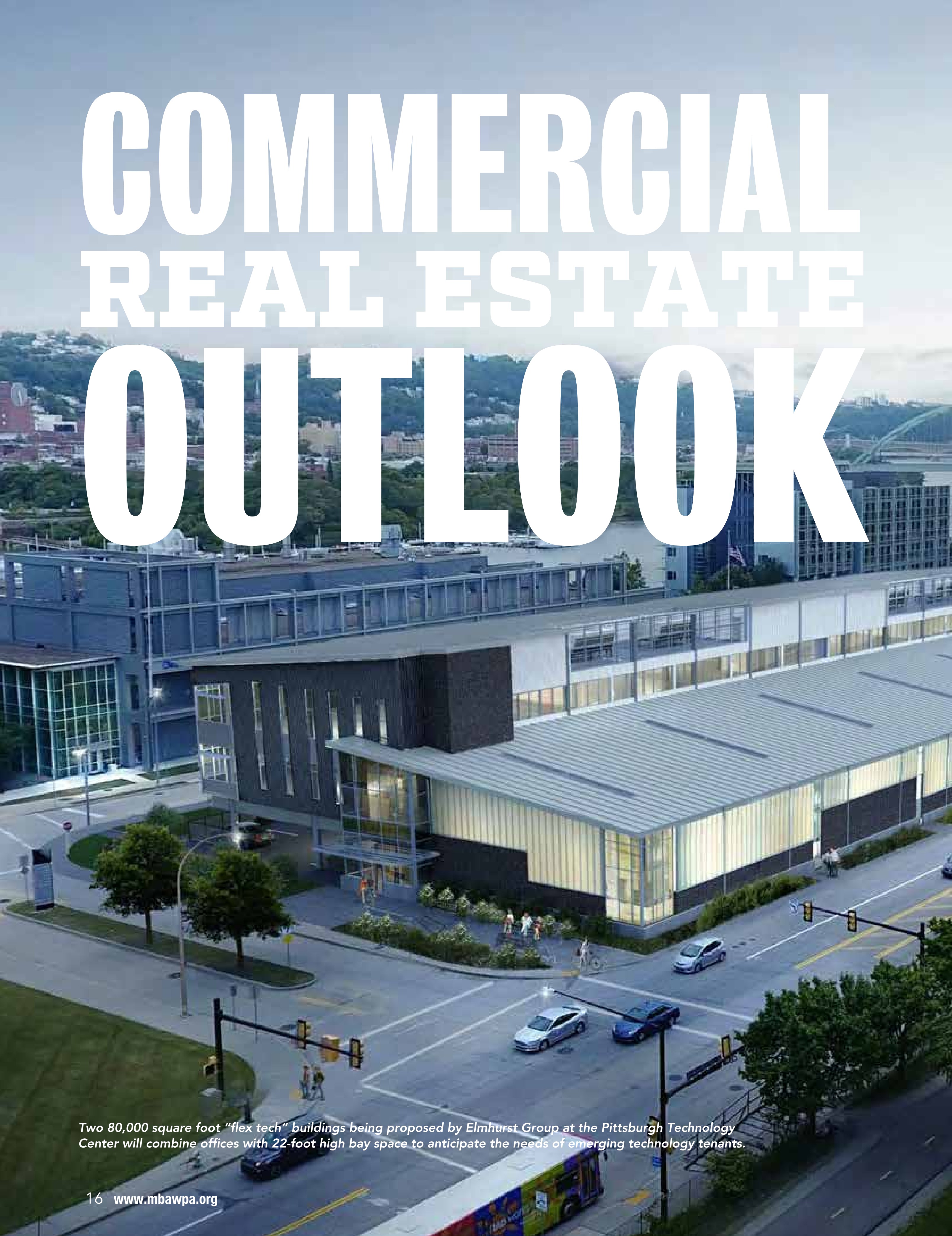
Source Bureau of Labor Statistics, Updated October 10, 2018
Compiled by Ken Simonson, AGC Chief Economist

(29.3 percent), steel pipe and tube (22.1 percent), fabricated structural metal (11.7 percent), asphalt paving mixtures and blocks (11.2 percent), and aluminum mill shapes (10.7 percent). Most of these hikes were tariff-related, although most of the data collected on September PPIs predated that implementation of the tariffs. Feedback from the BLS survey indicated that suppliers were passing on the hikes and warning that the tariffs are scheduled to jump from ten percent to 25 percent in January.

Hurricane Florence and Hurricane Michael will also likely have an effect on input prices into the early months of 2019. Losses of materials and disrupted shipping due to the extended flooding have pinched supply chains. Demand for rebuilding, when damage is sorted out, will also push prices up. The intensity of the storm impact is, at this point, still unknown.

Of concern for 2019 are the prospects of more trade wars from the Trump Administration and another spike in oil prices. Absent any change to the strong employment market, it's likely that perceived trade imbalances will be met with tariffs or other punitive measures that will provide upward pressure on prices. The supply and demand dynamics of the oil market are currently trending higher for the next year. Industry forecasts for benchmark crude oil have been as high as $100 per barrel in 2019. That level of pricing will ripple through construction, causing input-related price increases in diesel fuel, asphalt, roofing and other products derived from oil, as well as fuel surcharges that will affect the transportation of products and materials. BG

COMMERCIAL REAL ESTATE OUTLOOK



Two 80,000 square foot "flex tech" buildings being proposed by Elmhurst Group at the Pittsburgh Technology Center will combine offices with 22-foot high bay space to anticipate the needs of emerging technology tenants.

It's the lifeblood of construction, if you consider what drives commercial real estate. Good commercial real estate markets are also good cities to work and live. Growth in jobs and in population drive commercial real estate and everything else in a construction market follows. Except for public construction – which follows a drumbeat that is disconnected from the economic music – what kind of construction thrives in a community that is losing people and employment?

Since the lights came back on after the Great Recession, commercial real estate has been one of the leading sectors of the construction industry in Pittsburgh. That wasn't true in other recovery periods since the steel industry left. Because the Pittsburgh economy bounced back quickly as, first, the Marcellus Shale play took off and then emerging technology blossomed, commercial real estate saw big demand for hotels, offices, warehouses and apartments. Even retail developments worked here (although not too many were started).

As real estate cycles go, the current one is long in the tooth. Almost ten years into the technical recovery from recession that started in March 2009, it wouldn't be unrealistic to expect commercial real estate developers to be holding pat. But, in fact, the opposite is happening. Yes, hotel development has mostly stopped, or pulled back to historically normal levels. And the apartment "boom" has cooled somewhat. But development of office and industrial buildings is actually ramping up. Virtually every developer in Pittsburgh is in the midst of a speculative project.

In part, this is a response to the fundamentals of the market. Vacancy rates are lower than average. Rents are going up in most categories of property. Users are actively in the market with requirements that far exceed the supply in some parts of town. Investors are sitting on piles of cash that they would like to deploy and Pittsburgh is one of the places they are looking to invest. Even with interest rates rising slightly of late, borrowing costs remain low compared to what they have been during the careers of almost all real estate developers working in Pittsburgh. The fundamentals are a green light.

Fundamentals are an insufficient explanation for the current bullish commercial real estate environment. There is a confidence borne of the belief that Pittsburgh has turned a page once and for all. There have been other times in the past couple of decades when fundamentals were flashing green but the developers didn't respond to the signals. Today, it seems clear that the development community in Pittsburgh sees the current market as strong and the future market as stronger.

The Market Data

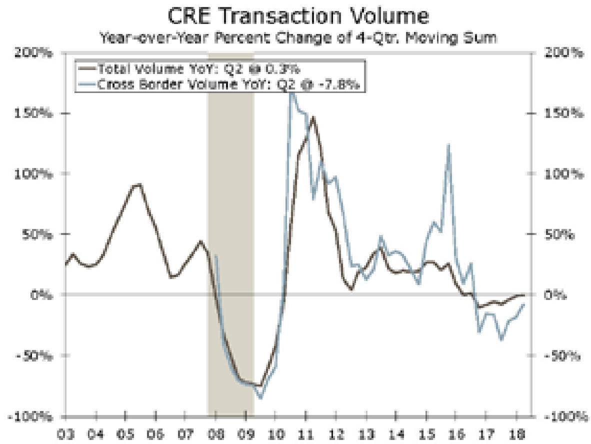
It is probably a telling sign that the market is doing well when the office sector experiences negative absorption and it's viewed as a good thing. The Pittsburgh office market saw almost 35,000 square feet of negative absorption – meaning that much more space was available after the third quarter than before – but the additional vacancy was due to 40,000 square feet of subleasing by Burns White and Bosch in 3 Crossings. That provides some capacity in a sub-market, the Strip District, which essentially had no available space, but had plenty of demand.

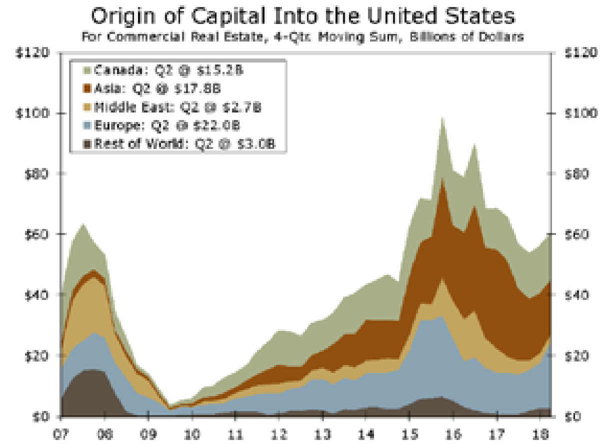
Pittsburgh's office and industrial markets reflect the health of the underlying economy. The fundamentals of the markets – occupancy, absorption and rent – remain on positive trajectories.

The office market not only survived what had been concerns about a glut of space coming on the market in 2017, it has thrived since then. At the end of the third quarter, vacancy rates remained well below historical averages, especially in the Central Business District (CBD) and Airport Corridor. Absorption was slightly negative, but 131,598 square feet of new space was completed and entered the market. More than 750,000 square feet of construction was underway in the CBD and Oakland urban markets.

Those urban markets are the beneficiaries of the technology sector that is the largest hiring sector in Pittsburgh. The traditional CBD in Downtown remains dominated by financial services and healthcare employers but the expanded CBD, which includes the Strip, North Side and South Side, has become the home to the emerging technology companies in the region. Part of the reason for this is the availability of property to develop or redevelop. The Golden Triangle has been built-out for a generation, except for a few parcels, and Oakland – which is literally at the heart of the demand drivers – has an occupancy level of 98 percent. Some visionary development took advantage of large parcels of land along the Allegheny River and large vacant space on the North Side to add more than a million square feet of office space for tech companies within the last five years.

Most telling of the data was the continued upward movement in rents. The average rent overall in the metropolitan area topped $22 per square foot. In the urban sub-markets, the average rent





Source: U.S. Department of Labor, Real Capital Analytics and Wells Fargo Securities

was above $29 per square foot. Perhaps the best metric was rent growth, which was 11 percent, compared to the same time three years earlier. That makes investing in and constructing office space more attractive.

Pittsburgh's industrial market is even tighter than the office market. Occupancy, which has been between 92 and 93 percent for the past couple years, ticked upward a couple of basis points in the third quarter to 92.8 percent occupied, according to Newmark Knight Frank. Vacancy rates for Class A space were lower than the overall industrial market, with Class A warehouse/distribution vacancy at 3.7 percent.

As would be expected with such favorable supply/demand dynamics, rents rose 4.6 percent year-over-year in the third quarter. The average lease rate of $5.72 per square foot is an all-time high, according to CBRE.

What is noteworthy about these healthy numbers is the fact that demand is staying up with supply during a time of high construction activity. More than 460,000 square feet of space was absorbed, net of new vacancies, in the third quarter. That brought the total net absorption year-to-date to more than 950,000 square feet. Roughly 100,000 square feet of new product was brought online in the third quarter, leaving more than 1.3 million square feet under construction that should be delivered into the marketplace within six months. There are several hundred thousand square feet of industrial projects in the planning stages currently, setting the stage for 2019 to see strong growth in industrial leasing and acquisition.

The Perception of the Market

Those market data are representative of a healthy commercial real estate and a healthy local economy; however, taken in full, these aren't the statistics of a market that is booming. Pittsburgh has not been such a market in many generations. It's part of the appeal of investing or developing in Pittsburgh. The highs aren't too high and the lows aren't too low. The objective measurements of Pittsburgh's commercial real estate market have also remained fairly steady for most of the last decade. But the perception of the market seems to be a step or two above what the data is telling us. That means that commercial real estate is either about to go into a higher gear, or will become overbuilt soon. The developers are guessing it's the former.

"We've been on an unprecedented run of late. I've been through a number of downturns during my 40 or 50 years of working and I fully anticipate that we'll have a correction of some significance in the next 18-to-24 months," says Steve Thomas, chairman and CEO of Chapman Properties. "With that said, we're still developing a spec building. We've had such success with our spec building at Chapman Westport that we're starting another, even as we look forward with some caution about the next 18-to-24 months. I guess we're cautiously optimistic and hunkering down at the same time!"

"We are still bullish on Pittsburgh but for the right product in the right location," says Steve Guy, CEO of Oxford Development Company. "It's going to be more difficult to build the same thing that we've been building in the city and be successful. How you differentiate your product and, of course, having the right location will take center stage."

Walnut Capital's president, Todd Reidbord, says his firm looks at the Pittsburgh market strategically and has shifted its property type focus over the years. After successes at Bakery Square, which was started at the depths of the Great Recession, Reidbord says his investors are happy and not looking to hunker down.

"What do they say? All real estate is local," he asks. "I think there are some markets where there are developers looking for a downturn to occur but not in Pittsburgh. In this market, we're slow and steady."

Walnut Capital's growth may have been slow and steady over the past 20 years but it is anything but static in 2018. The company has broken ground on the first two of four new office projects in Oakland and Bakery Square that will add 750,000 square feet to the inventory near the major university and medical research centers. Bakery Square 3.0 is anchored by Philips's 200,000 square foot lease, which leaves 128,000 square feet of available space. Much of the remaining space Walnut Capital is developing is technically speculative, but being in the heart of Pitt's campus, is likely to be gobbled up quickly.

"There hasn't been much spec development in Pittsburgh," Reidbord says. "Even projects like the District 15 in the Strip, 100,000 square feet isn't that much spec. Maybe the real spec has been Downtown, with the buying and renovating of the high rises."

"We are really big on the Brookings Institute's idea of the innovation district in Oakland," he continues. "We think there is opportunity for large towers in Oakland, working with corporate partners. That's what happened with Philips at Bakery Square. They are talking about the opportunity to grow in that location."

Brad Totten, principal and managing director of Avison Young's Pittsburgh office, recalls starting his career as PPG Place, One Mellon Centre (now One BNY|Mellon Centre) and Oxford Centre all came on line, putting a couple million square feet of spec office on the market. Those projects took the better part of a decade to fill and represented that last big wave of spec building in Pittsburgh. Totten says the recent activity in speculative offices has opened his eyes.

Totten notes that the Facebook lease has had something of a domino effect. With District 15 no longer available, users that are now locked out of that location are looking elsewhere. He says that the Tech Forge 41 building that Avison Young represents is getting much more activity.

Burns & Scalo Real Estate is currently marketing its Riviera building on Second Avenue in the Pittsburgh Technology Center. The 150,000 square

The Riviera, by Burns & Scalo Real Estate, hopes to attract tech tenants that will want proximity to Oakland, Downtown and Hazelwood Green.

"It's an interesting time in Pittsburgh. The news of Facebook's leasing 105,000 square feet in District 15 in the Strip District, I don't think that has happened in Pittsburgh in decades," he says. "[District 15] was built entirely on spec and it was absorbed by a single user. That hasn't happened in Pittsburgh, at least not in the CBD. That's 500 jobs in Pittsburgh that don't currently exist."

foot office building is under construction and the developer expects to make an announcement soon about the start of construction of a spec office at its Boardwalk property in the RIDC Park in North Fayette Township and is marketing its First Smithfield site Downtown as a 300,000 square foot opportunity. CEO Jim Scalo sees the Pittsburgh market as ripe for office product and wants to take advantage of a virtuous cycle.

"The Pittsburgh market has changed. People are paying more rent for new locations. I drove through the Strip for 30 years and never thought about building there. Now I'm late," he laughs. "Spec is hard to finance. It's not in most people's DNA. It's perceived as too risky because it takes two or three years to complete. But what business isn't speculative? You must have supply inside the cycle of demand or what will you have to sell?"

Scalo believes he's seen a bifurcation of the market between old and new buildings. With land and construction costs rising, new projects only make financial sense if rents are rising too. Thus far, demand for new buildings has supported rents that are above the market. Elmhurst Group's Schenley Place earned the highest rents in the region when it opened in Oakland. Burns & Scalo's Bentley project is getting rents equal to Class A CBD rates in Green Tree.

While technology has been driving the office market, the industrial market has been pushed forward by a combination of expanding logistics and energy. With construction of the Shell Franklin ethane cracker about halfway completed, it will still be another couple of years before we see the impact of the polyethylene industry on the industrial market in Western PA, but the recovery of the natural gas industry has helped re-boot demand for warehouse and fabrication space. As Steve Thomas points out, the market dynamics for industrial development are very supportive.

The more impactful trend to industrial development has been the expansion of third-party logistics (3PL) and online retail delivery into the Pittsburgh market. Most of the big users that have landed leases in recent industrial developments – like Buncher's Jackson Pointe, Neyer's Clinton Commerce Park and Sippel Development's build-to-suit for FedEx – have been in the 3PL or direct logistics business.

These projects have mainly attracted users that took no more than 300,000 square feet, and mostly less than that. Amazon has continued to have a large-scale fulfillment center for Pittsburgh on its list of requirements but the online giant has not pulled the trigger. Newmark Knight Frank's executive managing director, Louis V. Oliva, points out that Pittsburgh remains the largest secondary industrial market without a 1,000,000 square foot Amazon distribution center. He sees the recent announcement by Urban Outfitters to build an 860,000 square foot fulfillment center in Indiana as a business attraction victory but not a tipping point.

"The decision by Urban Outfitters to locate its fulfillment center in Indiana County is a great win for Indiana County in particular, and the Western PA region in general," Oliva says. "However, I'm not ready to declare this a trend or preview of coming attractions for large regional distribution or fulfillment centers to locate in Western PA, although it is a positive sign that we can compete for this type of use. We are still seeing more large occupiers (greater than 500,000 square feet) locating in Columbus to the west or Central PA/Northeast PA to the east for this type/size of facility. Those regions have more pad ready sites for larger buildings in addition to similar geographic network coverage."

Even without the integration of massive fulfillment or distribution center into the Pittsburgh industrial market, the sentiment about the demand for industrial space is as optimistic as that for office space. Developers like Chapman and Elmhurst, which have industrial property located in the airport corridor, are banking on a fully-developed natural gas and petrochemical infrastructure to bring millions of square feet of demand for modern industrial buildings, even if they cannot fully describe that demand today.

Big stable demand for distribution and fulfillment centers has historically attracted institutional investors, which help to drive development of more industrial projects. The elevated profile of Pittsburgh's industrial market would be another layer of demand for commercial real estate investors, which have historically looked to markets other than Pittsburgh. The demographics of the region aren't compelling and the low volume of deals just didn't attract big investment funds to carve out allocations for Pittsburgh. The steady drip of good news coming out of the region over the past decade has changed that.

"Pittsburgh has become a hot spot for the capital markets," Reidbord says. "We've gotten on the radar for investors looking to come into the knowledge economy."

As models for regional economic success have evolved, one that fits Pittsburgh perfectly has emerged. As Reidbord describes, smart investors have discovered that communities with world-class educational and research assets produce returns that are above average. For Pittsburgh, the growing commercialization of university- and hospital-centered research advances has created economic opportunity. Ultimately, that commercialization has created a growth story.

At the same time the perception of Pittsburgh has evolved, the perception of commercial real estate as an investment vehicle has evolved. Rock-bottom interest rates made fixed-income investing more difficult. Adjusted for risk, commercial real estate became a more favored investment for institutions that had to get blended returns in the mid-to-upper single digits. Investors like life insurance companies added to their allocations for real estate lending every year, a trend that continues. So, as Pittsburgh was getting a slice of the real estate capital pie, the pie was getting bigger.

"To a real estate investor, commercial real estate was seen as a more risky investment 15 years ago, but now it is now seen as its own fourth investment class, along with bonds, stocks, and alternate investments," notes Bill Hunt, president and CEO of Elmhurst Group. "Insurance companies and private equity groups have grown much more comfortable with investing in commercial real estate as an asset class, especially now in secondary markets like Pittsburgh."

Even as interest rates have begun to creep up, there is still a long way to go before long-term rates reach the point that Treasury bills compete with real estate for investments. By this time, as Hunt observes, most investors have come to see commercial real estate differently.

"There's plenty of dry powder. Investors have plenty of cash to deploy," agrees Scalo. "The stock markets have been really good. People have to look for other places for investment opportunities for what they have earned."

The perception of the Pittsburgh market has clearly changed in a decade. It's hard to remember that it was the occasion of Pittsburgh's sesquicentennial in 2008 that Jim Rohr launched the "Imagine Pittsburgh" campaign by admonishing Pittsburghers to stop being so negative about their home region. The region has been recognized so repeatedly since that time that our commercial real estate market has moved onto the radar of people who never have Pittsburgh a second thought. And that has had an unforeseen consequence for Pittsburgh developers.

"For the last ten years there's been a little bit of 'be careful what you wish for' in Pittsburgh," says Hunt "We always felt that Pittsburgh didn't get the respect it deserved. Now we're getting that respect but it means we're competing with many more outside developers and investors."

What Could Change the Market

It doesn't take a global financial crisis to cool off the real estate market. The erosion of the normal business cycle, when growth slows and corporations look to cut back to maintain profits, has historically led to overbuilding by those owners/developers who stayed at the party too long. It's true that even a mild recession will cause developers to pull back on their plans, even if only because financing new projects becomes more difficult; however, the U.S. economy has been a collection of regional economies for decades and not all regions experience recessions. From the 1980s until the Great Recession, many of the South's biggest cities simply grew right through the downturns. And Pittsburgh weathered the Great Recession much better than most of the U.S.

Decades of encouraging economic diversification yielded an economic base that was resistant, if not immune, to the forces that wrecked the economy in 2008-2009. In the decade since, Pittsburgh's economy has become even more resistant to recession; in fact, given the trajectory of the industries driving the Pittsburgh economy, it's not difficult to envision growth continuing in Western PA with no regard to the global economy's condition.

So, what would make Pittsburgh developers pull in the reins? Corporate expansion is what is

INDUSTRIAL MARKET SUMMARY

	Current Quarter	Prior Quarter	Year Ago Period	12 Month Forecast
Total Inventory	135 MSF	135 MSF	135 MSF	↑
Availability Rate	7.2%	7.5%	7.6%	↑
Quarterly Net Absorption	463,608	290,635	353,906	↓
Under Construction	1,301,127	1,132,240	73,920	↑
Deliveries	100,000	0	465,500	↑

Source: Newmark Knight Frank

driving the demand for space, so a slowdown in corporate investment would be a cold splash of water on commercial real estate.

"It would take a big pullback in corporate America," predicts Scalo. "I think we're at the beginning of an economic cycle that is being driven by the tax cuts.

"I think it will take more of a macroeconomic event rather than something in the local market," says Thomas. "If there was a financial market collapse or a 20 percent correction in the stock market, the environment would change."

Certainly a crisis that froze the capital markets, such as we experienced in the fall of 2008, would have a chilling impact on development. Employment may be the driver of commercial real estate but capital is the mother's milk. Absent such a black swan event – and there is nothing like the conditions in place in 2018 that precipitated the financial crisis – Pittsburgh's economy remains insulated from many of the recessionary forces that could slow the U.S. economy. For Todd Reidbord, it would take something more microeconomic to dampen the environment.

"If the universities or medical centers were to pull back, we would have to think about slowing down our plans," Reidbord allows. "But from what I know of their internal plans they are growing, not pulling back."

Steve Guy is concerned about some of the legislation in process that could impact commercial real estate, and fears that political considerations could outweigh market realities in the decisions that will be made by the government. Oxford is moving forward with projects like the second phase of 3 Crossings in the Strip, but Guy is cautious about the business cycle.

I am concerned about projects where there is a long carry. The debt markets are unpredictable right now," Guy says. "I'm not comfortable with making long predictions as to the impact of what's going on with the Federal Reserve and in the bond markets." Guy went on to add that Oxford "is being very selective in adding to the active pipeline at this time."

Bill Hunt makes the point that Pittsburgh's stagnant population is something of a built-in caution signal.

"We are developing in the Pittsburgh Technology Center on Second Avenue. We have projects out by

Direct Vacancy Rate 12.6%

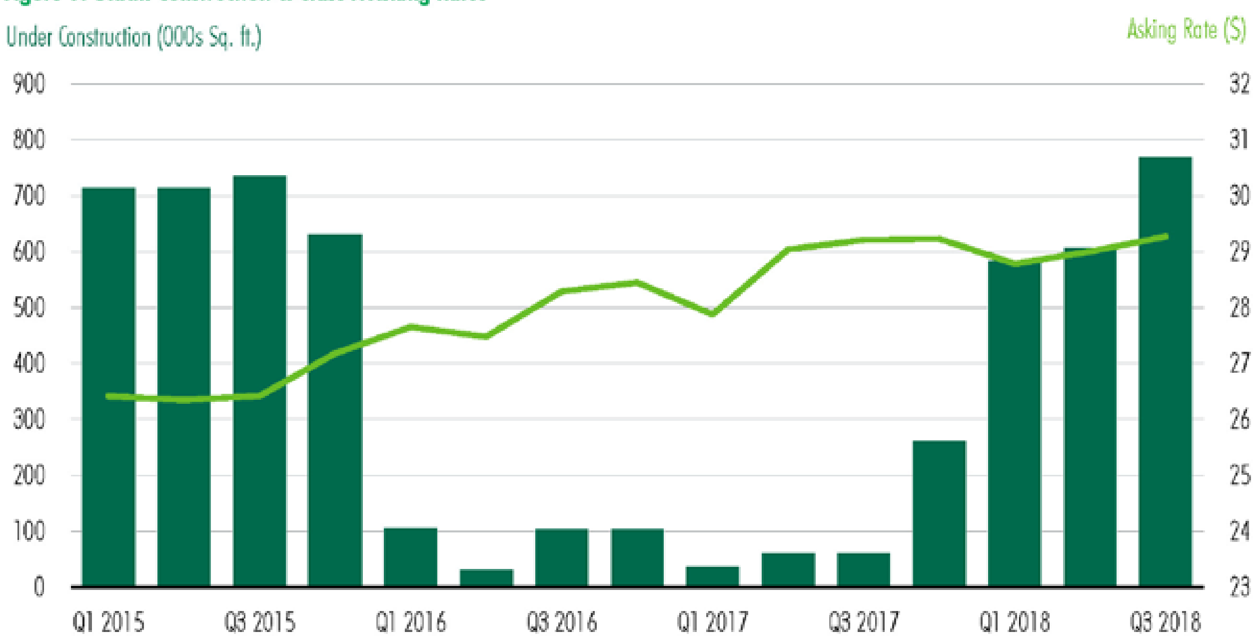
Overall Market Average Lease Rate $22.21 PSF

Net Absorption (34,731) SF

Completions 131,598 SF

*Arrows indicate change from previous quarter.

Figure 1: Urban Construction & Class A Asking Rates



Source: CBRE Research, Q3 2018.

3 Crossings, developed by Oxford Development became home to multiple tech companies, stitching a new development into the middle of an emerging hot neighborhood. Photo by Mark Grassley

the airport and we're expanding with Bechtel in Monroeville," Hunt says. "But we have to be careful. The Pittsburgh region is not growing in the aggregate and thus you need to find the right niche and not just expect the overall market to rise. There are other real estate markets where you don't always have to be in the right place at the right time. The rising tide of growth in that market takes care of that. But that isn't what always happens in Pittsburgh."

Regional leaders hope that the decades-long efforts to promote a diversified economy have built an engine that can keep moving forward in the face of a macroeconomic downturn. The way Pittsburgh's economy weathered the Great Recession suggests that is the case. Augmenting those efforts, Pittsburgh has been the recipient of some good fortune too. Shell's selection of Monaca for its cracker and the exploration of the Marcellus Shale formation that lies beneath us were welcome turns of events in a region that had endured more than its share of bad luck since the 1980s.

The commercial real estate market in Pittsburgh also seems to have turned a corner. Around the time Jim Rohr was telling us to Imagine Pittsburgh, vacancy rates in the CBD were near 20 percent. Rents were $8 per square foot lower. The prospect of multiple spec buildings being absorbed at once seemed a fantasy. Commercial real estate developers are finding themselves adapting to a new normal, one that is vastly improved over the new normal that they had to accept in 1984.

Developers are optimists. They sell a vision of the future that is generally just a shade rosier than the current reality. That's a necessity if a real estate market is ever to have anything new. Pittsburgh developers are also a pretty resilient bunch. They don't often build and flip. There is a staying power to Pittsburgh's commercial real estate market that serves the region well.

"This is a business where if 80 percent of your decisions are good, and the other 20 percent aren't fatal, you'll do pretty well," jokes Thomas.

Photo by Rombout Photography.

PROJECT PROFILE

#1 COCHRAN AUDI DEALERSHIP

Situated on an island of land between Liberty Avenue and the Allegheny Valley Railroad at 21st Street, the new #1 Cochran Audi dealership in the Strip District provides a car-buying experience that is physically different from any other dealership in Pittsburgh. From its Downtown views to its multi-story floor plan and roof-top observation deck, the #1 Cochran Audi facility reflects the uniqueness of being the only car dealership in the Strip.

#1 Cochran chose the location as part of its successful proposal to win Pittsburgh a new Audi dealership from Audi USA in 2015. The growth in the Strip District and Lawrenceville put the dealership in a hot location, with hot demographics; however, the location actually has more to do with the proximity that the Strip District location has to other parts of the city that are full of Audi-buying prospects. The new dealership is within ten minutes of buyers in Shadyside, Downtown and the northern suburbs. The easy access to Route 28 gives buyers a limited access highway on which to test the capabilities of the Audi's performance.

What wasn't convenient in the site selection was finding a location that supported anything like a conventional car dealership, or a conventional construction site. The success of redeveloping the Strip District has attracted dozens of developers and made landowners in the Strip value their properties more highly than five or ten years ago. There weren't many parcels or existing building that were available. #1 Cochran Audi sits high above a retaining wall that runs along the south side of Liberty Avenue, just ten blocks from Liberty Centre. It has great proximity, but the site forced a lot of accommodation to convert it into its intended use.

"It's a very tight site for a car dealership. In fact, the service department is actually at another location," says Brian Smedley, project architect for Nudell Architects. "Auto dealerships are one of our primary markets and the vast majority of dealerships have sales and service at one location. They are not always in the same building but 99.9 percent of the time they are on the same site."

Nudell was the architect of record for the Audi dealership, working with Audi of America's design architect, CDR Studio Architects from New York, to deliver construction documents and administer the construction. In addition to adapting the design to the site and taking the project through code compliance and entitlement, Nudell was charged with detailing the project. That was much more of a challenge than a typical car dealership.

"It's a very detailed and complex project," Smedley says. "It might not look like it at first glance but a lot of thought went into making sure the walls lined up and details matched. There was a lot of unusual detailing. That was a function of the design, not the site."

What the site presented was challenging enough. The location posed four significant problems. First, there was almost no room to maneuver because of the small size of the site. Mobilizing and lay down were difficult. The location of the structures relative to Liberty Avenue presented a challenge because of the high retaining wall that was immediately below the building. The soils were found to be unsuitable for bearing. And the railroad tracks lay in close proximity to the building site.

Jim Henderson, project manager for general contractor Nello Construction, says that the problems required more than traditional solutions.

"Building upon the retaining wall [on Liberty Avenue] was what everyone was afraid of. It turns out that there was a hidden retaining wall too," Henderson says. "When we went in with the stone columns behind the existing 16-foot retaining wall, we found there was an eight-foot wall, four feet behind that. We had to excavate that hidden wall."

The stone columns were part of the solution for the poor subsurface conditions.

"The soils were bad. We had to go ten feet to find any bearing soil," Henderson continues. "Dr. Alvi [from Geomechanics] designed vibratory stone columns, which are drilled caissons that are filled with stone. We poured a nine-foot by nine-foot concrete pad then set the steel on top of that."

Because of the small site, Nello had little laydown space and the proximity to the wall on Liberty Avenue made scaffolding unworkable. Nello used hydro-mobile lifts in place of traditional scaffolding. The site had one more major problem in that it was adjacent to the Allegheny Valley Railroad's line through the Strip District. Henderson credits the project superintendent, Rick Jarecki, with managing that issue well.

"The south side of the jobsite was also Allegheny Valley's access to the railroad tracks. It was a constant battle to get trucks in and out," he recalls. "Rick developed a good relationship with the people at the railroad. Without that relationship we wouldn't have been able to get through the project peacefully."

Cochran has come to rely on Nello Construction to handle difficult situations smoothly. The Audi facility was the sixth that Nello has built for #1 Cochran in the last few years. When the dealership was awarded to Cochran, they turned to Nello during the early phases of the development.

Construction started on the Audi dealership in April 2017. The facility consists of two main structures. One is an elevated multi-level automobile storage/parking deck that

The curved, LED-lit wall at the back of the showroom mimics the appearance of a roadway. Photo by Rombout Photography.

The sweeping views from the observation deck prompted the decision to change the parapet design to include a section of glass wall. Photo by Rombout Photography.

One of the challenges of the site was the close proximity to the retaining wall just above busy Liberty Avenue. Photo by Rombout Photography.

is 26,000 square feet. The deck integrates with the main showroom building, which is a three-story, 25,500 square feet structure with a terrace. The first floor of this building is a reception and lounge area. The main showroom is on the second floor, which opens onto the upper level of the automobile storage deck. Offices fill the third floor. Above that is a rooftop deck that is used for events and entertaining Audi customers. With the views the deck afforded, the owner made a last-minute change in plans.

"It was always a part of the project to have a roof-top deck because of the great views of the city from the building," Smedley recalls. "Well into construction – and I'm not even sure how this decision came about – it was decided to build a glass parapet. It is a curtain wall along two sides so that there can be viewing in other directions."

The addition of the glass wall had unintended consequences that added to the project's difficulty.

Photo by Rombout Photography.

"There's a roof-top observation deck that had a window wall added in August," Henderson explains. "The area chosen for that was where the main power was going to come into the building. We had to use temporary power throughout the job for the sake of safety until the wall was completed."

An upscale brand, Audi looks to convey the engineering quality of its autos in the design of the dealership. CDR Studios designed a building that uses exterior materials to soften the effect of its height. The metal Sobotec wall panels on the exterior elevation run diagonally away from the highest point of the curtain wall that fronts the showroom to the west. Those wrap the building without an obvious break at the first and second floors. The curtain wall is also seamless at each exposed floor. While the building is rectangular, the angles help to distract from the symmetry of the building's shape.

"The siding is unique," note Henderson. "It is steel corrugated siding with support studs that has the honeycomb siding attached over that. The whole corrugated assembly is seven or eight inches deep and the honeycomb material is another four inches."

"The building has a unique design, and unique materials," notes Smedley. "For example, the honeycomb panels project out over the windows so the operable windows have to open inward. The main design element in the showroom is the raceway wall, which is a backdrop to the vehicles being displayed. The raceway wall is at a 60 degree angle vertically and it also curves on plane. So while you are building the wall at an angle, you are also building it on a curve. I had to visualize what that would look like in the field when I was detailing it."

"On the second floor there is a 16-foot, 30 degree radius wall that is meant to look like a racetrack," Henderson continues. "It has a series of LED lights that are arrayed to look like a track. The wall is charcoal gray with the lights in the center. From the outside it looks just like a race track."

Construction wrapped up on the Audi dealership in October, with #1 Cochran holding a grand opening on October 25. Henderson shrugs off the challenges that the project presented, noting that every project has something to overcome. He credits the familiarity that comes with a repeat client with making the process of managing the challenges easier. The architect also credits the contractor's team.

"Nello is a good contractor. I wasn't surprised they were able to build the project successfully," says Smedley.

"It's a beautiful building and it's unique to the area," Henderson concludes. "For the first car dealership in the Strip District it will definitely open some eyes." BG

PROJECT TEAM

Nello Construction Company	General Contractor
#1 Cochran	Owner
Nudell Architects	Architect
CDR Studio	Design Architect
Menard Group USA	Ground Improvement Specialist
Moore & Morford Inc..	Steel Fabrication
Century Steel Inc.	Steel Erection
Harris Masonry Inc.	Masonry
Pittsburgh Flexicore	Precast Garage Planks
Bruin Roofing	Roofing
RAM Acoustical Corp.	Interiors
DeLattre Corporation	HVAC
Ryco Plumbing Co.	Plumbing
A-Positive Electric Co.	Electrical
Mongiovi Fire Protection	Fire Sprinklers
Specified Systems Inc.	Glass & Glazing
Cugini Painting	Painting
J. P. Phillips Inc.	Ceramic Tile
Baldwin Asphalt Paving Inc.	Asphalt Paving

THE CONSTRUCTION LEADER

LABOR & MANAGEMENT BUILDING OUR REGION'S SUCCESS

FROM THE EXECUTIVE DIRECTOR:

Many of you may be familiar with the event the Builders Guild developed and held at PPG Paints arena this past January. The program was geared to providing area residents with information on careers in the construction trades with a special focus on minorities and women.

Marketed primarily in Allegheny and contiguous counties the event drew close to 4,000 people to the arena for the one-day event. An overwhelming number; and certainly, successful by any measure. Yet it was clear we needed to do something to focus on kids and provide a superior, interactive experience.

As we look ahead to 2019 we are expanding this event to two days, March 29 and 30, and moving to the David L. Lawrence Convention Center. We are still in the planning stages, but March 29 will be for school districts only providing an interactive, hands-on event for students, counselors, and teachers. March 30 will be open to the public, offering the same interactive experience.

In addition to our construction trade unions we are inviting tool and product vendors to participate as well as some allied industries – most notably the natural gas, utility and manufacturing industries as well as regional college and university engineering, architectural and business programs. The over-riding goal: To show the breadth, depth and professionalism of our industry.

More detailed information will be shared over the next few months through the Builders Guild, our member trade and contractor associations and through BreakingGround and DevelopingPittsburgh magazines.

We certainly will be seeking the involvement of our contractors and developers at this event so that we can present a unified industry, and the multiple and varied career paths in our industry.

Sincerely,

Jeff Nobers

Executive Director

Builders Guild of Western Pennsylvania

jnobers@buildersguild.com

INCREASED DEMAND SPURS NEW AND EXPANDED TRAINING CENTERS

As demand for skilled construction professionals continues to grow three regional JATC's have expanded or re-opened training facilities to bring more apprentices into the ranks.

In August, Bricklayers and Allied Crafts Local Union #9 re-opened a Joint Apprenticeship Training Center in Erie, PA to address the growing need for apprentices in the northwest region of the state. The training center is located at 2550 McKinley Avenue in a joint venture with long time Erie block manufacturer A. Duchini, Inc.

An apprentice at the Bricklayers and Allied Crafts Local 9 training center lays a course of concrete block.

BAC Local 9 Apprenticeship Director Kurt Keller notes there is unprecedented demand for Bricklayers and Tile Setters throughout western Pennsylvania.

"The non-residential construction industry is at historic highs and continues to grow in the northwest corner of the state and throughout western Pennsylvania," said Keller. "We have never experienced a need for trained, skilled, professional tradespeople as we are today, and there are especially lucrative opportunities in the bricklaying and tile setting trades."

Iron Workers Local Union No. 3 recently celebrated the completion of a major expansion at their facility located at 2315 Liberty Avenue. The $4.2 million project took about one year to complete and doubles the square footage of the training center to 18,000 square feet which can accommodate up to 400 trainees.

Among the improvements and upgrades are new exterior treatments including a two-story glass curtain wall, a new Reinforcing Room, Rigging Room with overhead crane, new reception and greeting area, renovations to the Ornamental and Structural Rooms, Weld Shop upgrades including additional weld booths and table ventilation and a new building wide audio-visual system.

The new second floor also includes meeting space for up to 85 people, a break area/cafeteria and a large outdoor space with skyline views of the city.

In addition, the cross-training facilities have been completed at Operating Engineers Local 66 JATC in Westmoreland County which include a mobile training room and three hands-on training structures including hydraulic and tower cranes for erection.

"Like all of the trades in the region we are experiencing an ever-increasing demand for apprentices and skilled Iron Workers," said Greg Bernarding, Business Manager/FST of IW Local No. 3. "There's great interest in careers in our trade and now we have the space and upgraded facility to be able to recruit and train even more people in all facets of iron working, structural, ornamental, reinforcing, welding and more."

Sheet Metal Workers Local Union 12 is scheduled to begin an expansion project in early 2019, with completion by the end of the year, on an 8,400 square foot stand-alone building and remodeling of the union hall, which is also used as a large classroom. The new building will be expressly used for teaching and will include a high bay area for aerial safety training and other courses. In addition, various upgrades will be performed on the historic original building at the Harmarville site.

Local 12 Business Manager Greg Blose says the expansion is directly related to demand.

"We have maximized the existing space and looking at all reasonable workforce projections it's clear that we needed to expand to be able to accommodate the number of apprentices that will be recruited over the next several years," said Blose.

CONSTRUCTION LEADER EDUCATION IN WORKPLACE

Educator in the Workforce Raises Awareness for the Trades

Mary Ann Berg, director, marketing, Mascaro Construction Company


Ricky Okraszeski (left) and Jeff Nobers discuss career paths in the trades.

The Consortium for Public Education and Mascaro Construction hosted an Educator in the Workforce program on Monday, October 8. In attendance were educators from 25 school districts, three intermediate units, and several career and technology centers (CTC). The program provided an overview of the multiple career opportunities in construction, the current and upcoming need for skilled personnel, and the multiple career paths students can take to achieve a fulfilling career in construction. It also provided educators an understanding of how to connect classroom learning with needed construction skills.

Held at the Keystone + Mountain + Lakes Regional Council of Carpenters building, John Mascaro opened the program by providing an overview of the construction industry and the diverse positions involved in a firm's day-to-day operations. The educators were then divided into four breakout groups to delve further into the many paths available. Each group was part of a 40-minute presentation / discussion that rotated through the following:

- Trades. Rick Okraszewski (Carpenters) and Jeff Nobers (Builders Guild) provided an overview of the need for skilled tradesmen and how educators can help their students prepare.
- Community Colleges / CTCs. This session focused on continuing education opportunities available during high school, postsecondary education from community colleges, and certification programs. The speakers included Joyce Cirelli and John Goberish from CCBC, Andrew Johnson from CCAC, Dave Wytiaz with Beaver County CTC, and Natasha Johnston and Mike Lewis from Parkway West.
- University/College. John Sebastian (University of Pittsburgh) outlined the construction management program at Pitt, while Mike Barnard provided an overview of the ACE Mentoring program.
- Tour. Dave Plutt, training director at the Carpenters, took educators through the training center, located next door to the council building, to demonstrate the wide variety of classroom and hands-on education an apprentice receives.

Mascaro employees were also part of each group session providing educators with a personal connection on how they got into construction and the benefits this industry has provided to them.

After lunch, the educators identified and discussed the skills students need to succeed in the construction field and how to incorporate teaching these skills in their classroom. Teams of educators began to design a sharing strategy for how they will share opportunities in the construction field with colleagues, students and families.


John Mascaro addresses the educators at the opening of the program.

The Educator in the Workforce program offers educators opportunities to learn about the region's industries and employers and connect their own areas of expertise with employer needs. Through organized worksite visits, participants learn about new technologies and about skills their students will need to pursue different careers. The goal is for educators to better understand workplace and post-secondary expectations and to be able to help students see how their classroom learning is relevant to real-world opportunities.

CONSTRUCTION LEADER PLAYING GAMES WITH SAFETY

Training, Millennials and Goldfish

By Bob McCall, director of safety, Master Builders' Association

How much screen time is too much for kids? It's a battle nearly every parent has waged. Today's older generation rightfully worries that kids are growing up addicted to their phones, tablets, and laptops. A recent study revealed that teens spend nine hours a day with their faces in front of a mobile device such as a smartphone or tablet. While the long-term effects of these habits will continue to be debated, one thing we cannot ignore is that Millennials acquire knowledge differently than the generations before them. And frankly, they are more efficient learners than we ever were.

Thanks to the availability of instant information and entertainment, we now have eight seconds to capture a person's attention before their mind starts to wander towards something else. EIGHT seconds! To put that into perspective, a recent study revealed that a goldfish has an attention span of nine seconds. Yes, humans have a shorter attention span than goldfish.

We now have unprecedented access to seemingly infinite information anytime we have a question or problem. Where research used to require a trip to your local library and hours of leafing through several books, today nearly all the information we need is in our pockets. And the solutions are found in seconds, not hours or days. Why is the attention span of Millennials so short? Because it can be! Today's learners aren't going to sit for eight hours to learn something they can find out about in, well, eight seconds. This has created the need to move towards a new training model that meets today's learning style.

Microlearning allows learners to consume training and apply new knowledge and skills quickly. It's focused, offering just the right amount of information necessary to help a learner achieve a specific, actionable objective.

Gaming is one example of where microlearning is taking a foothold in training by supplementing traditional methods. And the construction industry in Western Pennsylvania is leading the way. With games they have on their phones, construction workers now have instant access to information on hazards they may encounter, whenever and wherever its's most helpful. Games such as Harness Hero provide an interactive, fun, educational platform that younger generations flock to. In fact, Harness Hero has now been downloaded onto more than 25,000 devices on six continents. That's 25,000 opportunities to help address the leading cause of death on construction sites, three minutes at a time.

Educating our workforce is no longer simply delivering as much information as possible on rain days. Efficiency and effectiveness are vitally important. Otherwise, you may as well be training your goldfish.

WESTERN PENNSYLVANIA CONSTRUCTION INDUSTRY DRUG FREE PARTNERSHIP (WPACIDFP): UPDATES TO POLICY

By Dave Daquelente, executive director, Ironworkers Employers Association, and WPACIDFP Task Force member.

Construction is the #1 Industry!

While all of you should agree with this, it's important to clarify that this statement is referencing a recently published Center for Disease Control (CDC) study to identify occupational trends related to mortality data between 2007 & 2012 of unintentional and undetermined drug involved and opioid involved deaths that found Construction to be the top industry. Construction was also ranked highest in proportional mortality ratios (PMRs) for methadone, natural and semisynthetic opioids, and synthetic opioids other than methadone.

These and other reports only confirm what we know which is that opiates and other substances are prevalent in our industry and create additional risks in a workplace that does not need any additional risks. Costs to the workplace occur much earlier than an unintentional death for employees who struggle with substance abuse disorders. According to the Bureau of Labor Statistics, these employees miss an average of 14.8 work days per year which is more than 40% higher than other employees.

The Opioid Crisis impacts our entire country but statistically it hits our tri-state area hardest compared to other regions and gets most of the publicity, but abuse of other substances such as methamphetamine and cocaine is on a historic rise again across the nation according to Quest Diagnostics annual Drug Testing Index report.

Earlier in 2018 the WPACIDFP committee worked with a substance abuse industry legal expert to review the current policy and panel. This activity allowed the committee to review current trends and upcoming changes within the industry as well as legal questions relative to any changes in marijuana and workplace testing.

There were minor policy language changes implemented to further empower both crafts and contractors who utilize this program to keep their jobsites drug free. Updated language was reviewed to strengthen the Reasonable Suspicion/For Cause testing process so that Contractors can take advantage of this under used tool and craft employees have a transparent process that supports their bargained rights.

Additionally, the language in place (since 2016) to address the legalization of marijuana for medical purposes has been updated to reinforce that any WPACIDFP test result that is positive for the presence of THC (the metabolite tested for in marijuana) will still be considered a positive result in the program. Regardless of the variety of legal recreational cannabis products on the market in other states across the U.S. and including the legal medical products in Pennsylvania, these positive tests will not be overturned to a Negative result.

Research shows that people receive medical benefits from the use of cannabis, but for the following two reasons it's important to weigh the alternative medical treatments available that will not not result in a positive substance abuse test result and jeopardize employment opportunities:

- Medical cannabis products are not regulated and therefore do not contain consistent THC levels – this can provide medical marijuana users a false confidence if they are using a product that has a lower THC concentration and they are able to pass one (1) drug test.
- Despite State Law changes, marijuana remains a Schedule I Substance under the Controlled Substances Act at a federal level and is still considered an illegal substance.

If you have any questions about this program, please reach out to the Builders Guild of Western Pennsylvania, jnobers@buildersguild.org

PENNSYLVANIA STATE APPRENTICESHIP AWARDS

Former Operating Engineer, Introduction to the Trades Leader Recognized as Wolf Administration Announces Inaugural Apprenticeship Awards

Several Pennsylvania registered apprenticeship/pre-apprenticeship programs were recognized recently at the inaugural Pennsylvania Apprenticeship & Training Summit in Camp Hill, Cumberland Country. The awards, presented by the Department of Labor and Industry's Pennsylvania Apprenticeship and Training Office (ATO), recognized individuals for exceptional mastery as apprentices, pre-apprentices, and/or mentors and lauded exceptional apprenticeship training programs identified by training providers, local employers and workforce development boards.

"Governor Wolf understands that Pennsylvania's businesses are growing and need skilled workers, and that workers want and need the education and training to get today's in-demand 21st century jobs," said Secretary Jerry Oleksiak. "The companies and individuals being honored are great examples of how apprenticeship training programs create a well-skilled workforce."


Ron Sapp

Among those honored was Ron Sapp, former Vice President with Operating Engineers Local Union 66 who came out of retirement to lead the "Intro to the Trades" program located at the Energy Innovation Center in Pittsburgh's Hill District section. Ron was recognized as Outstanding Mentor for his tireless efforts and helping more than 160 people enter local trade apprenticeship programs over the past two years.

"It's an extreme honor and gratifying that the work we are doing here in southwestern Pennsylvania is being recognized across the state," said Sapp. "While I was honored the reality is that a great many people from our instructors, to the EIC staff to the training directors and business managers of our construction unions and contractors have all played a significant role in the program's success."

Since its' inception in 2016 the "Intro to Construction/ Trades Pre-Apprenticeship Program" has graduated more than 160 people, a 98 percent completion rate with just over 80 percent being in regional trade apprenticeship programs. The program is endorsed by the Builders Guild of Western Pennsylvania, is registered pre-apprenticeship program with the Pennsylvania Department of Labor and Industry and credentialed by the North American Building Trades Union (NABTU).

"The Builders Guild of Western Pennsylvania and our member construction trade unions and contractors are proud to support and endorse this program," said Jeff Nobers, Executive Director of the Guild. "Many people are involved in it's success, but certainly Ron's dedication, drive, commitment and the respect he has from everyone in our industry, and beyond, is what makes this program so successful."

The 2018 State Apprenticeship Award winners were selected by the ATO from a pool of registered apprenticeship programs. Individual candidates were required to be an apprentice, recent graduate, or mentor of a registered program.

Governor Wolf has set a goal of increasing the number of Pennsylvanians with some form of postsecondary education and training to 60 percent by 2025.

The Wolf Administration established the ATO in 2016 to support and expand registered apprenticeship programs statewide. The office provides outreach, education, and technical support to current and prospective apprenticeship program sponsors and apprentices.

FIRM PROFILE

D-M PRODUCTS INCORPORATED

D-M Products is a small company that gets big work done. Well known within its niche in the construction industry, D-M Products stays in its own lane, which has been a key to its success and longevity. Dick Macurak, president and second generation to lead D-M Products, says that he has learned from his father and others to work with what the market is giving.

"I think we have always focused on doing the kind of work we want to chase, rather than get over extended so that we can't service our customers," Macurak notes. "We have affiliated with very good companies who can get us products when we need them and we have a good labor force that we can rely on to put this work in correctly and efficiently. We talk about leaving our egos at the door. Even though we've done some incredible projects, we are always focused on the task at hand. My dad always said we'll have some good years and some not so good years, but we have to keep focused on our work."

The company is a glass and glazing specialty contractor that does about 80 percent of its business installing curtain wall. Five to ten percent of D-M's sales are in windows and the balance is related interior construction, like glazed doors, handrails and interior glass. Perhaps the fact that D-M Products is primarily in the curtain wall business, an unusually risky specialty, Macurak tries to learn from the companies that have stumbled over the years.

"I try to look at the bankrupt glass companies. We've worked with companies like Cupples and Flower City, which were probably the two largest in the world and both went bankrupt. I don't know whether it was poor business decisions or egos got the best of them, or if it was a combination of both. We look at those lessons and try to stay lean and even-keeled," he says.

"We try to keep an eye on where our estimated costs are. We try to use history in assembling the labor to see if there are any blips that we can anticipate. Every day is a new story. Just when you think you've seen it all, the phone rings," Macurak laughs. "For years I said our mantra could have been 'what now?'."

Dick Macurak Sr. founded D-M Products Inc. in 1974 after a 20 year career with United Plate Glass. His father had been a mill worker at J & L Steel and expected Macurak Sr. to follow him into the mill. When Macurak Sr. returned from serving in the Korean War, however, he determined that he wasn't going into the mill and began a career that would eventually lead to self-employment. Macurak Sr. had been running United Plate Glass's metals division before founding D-M Products and set up shop in his home to sell and install commercial windows.

The current president graduated from the University of Pittsburgh in 1976 and joined his father. After a year working together, father and son agreed that it would be valuable for Macurak to get experience away from the business. Macurak landed a job with Disco Products, a window manufacturer in Selma, AL. He sold windows throughout the Southeast, eventually working in a territory that encompassed Florida, Georgia, and North and South Carolina. He moved back to join his father at D-M Products in 1981.

"When I got back in the 1980s, we were a distributor for Wausau Metals, which has become Wausau Windows. We represented at them as their dealer for just over 20 years. I used to walk up-and-down Grant Street with corner

D-M Products founder Dick Macurak Sr. (center) is flanked by son Dick Macurak (right) and grandson Mike.

samples," he recalls. "Wausau changed the way they went to market, getting rid of their dealer network to sell with direct sales people. We're still a purchaser of theirs and but we are no longer a distributor."

The change with Wausau was something of a blessing as well, in that D-M Products is no longer responsible for supporting the sales of Wausau's products. In a marketplace that rarely uses a tight single-manufacturer specification, the independence means that D-M Products has more bidding opportunities with access to a wider array of manufacturers.

The way that D-M Products works in the marketplace has changed significantly over the years. Whereas Macurak once spent hours each week calling on architects, he says that because of the availability of information on the Internet, it's unusual to get a call about the products. D-M Products is often called in early by construction managers to help with budgeting for the curtain wall. That gives D-M Products early knowledge of projects that they will ultimately compete to build. The early access gives D-M Products an opportunity to share its expertise and add value to the project. All of those things improve the company's competitive position.

"The markets that we pursue are university, medical and corporate. Those are the three drivers," Macurak says. "At times things can get fairly lean with one or more of them, but fortunately right now we're in a very positive mode, particularly with university and medical work. We go down to West Virginia and go as far as Penn State and Erie. We have put together a good crew down in West Virginia. We stay within a 150-mile radius. We're pretty comfortable in our skin here in Western Pennsylvania."

Macurak jokes that D-M Products is like Northwestern Mutual Life Insurance's tag line, that they are the "quiet company" doing big projects in Western PA. With long-time clients like UPMC, Carnegie Mellon, West Virginia University Healthcare, and Penn State, the list of projects D-M Products has handled the curtain wall for is impressive. A stroll through its offices finds architectural photos of PPG Paints Arena, UPMC East, Childrens Hospital, PSU's Millennium Science Center and Dickinson School of Law, Tower Two-Sixty, Industrial Scientific's new headquarters and the BNY|Mellon Client Service Center.

Installing curtain wall on monumental buildings involves a lot of risk. D-M Products devotes resources to training and technology to mitigate that risk.

"We do some fabrication here but much of what we do is fabricated and taken right to the job site," Macurak says. "The units can be as big as 10 feet wide and 20 feet tall. Our workers are geared up now with rigging equipment to handle units that are 3,000 or 4,000 pounds and fly them onto the side of a building. We've become pretty adept at that.

"The curtain wall industry as a whole is one of the riskiest businesses in the construction industry. But our bonding company is happy with us. Our EMR [experience modification rate] is very low. For a small company we have a safety manager who visits all the sites. We've implemented a lot of safety programming, with equipment and knowledge so that our crews shouldn't be working in an unsafe way."

The safety culture appears to be paying off. D-M Products is within four percentage points of the minimum EMR for a contractor in the curtain wall business. Macurak says that notwithstanding that strong EMR, insuring the business is one of the most difficult aspects of managing the company.

"It's a challenge with insurance because our general liability carrier says even though we've never had an incident, the very fact that we're hanging off the side of a building makes them wonder if they really want to have our business," he explains.

Like most employers in the construction industry Macurak feels the availability of labor will be D-M Products' biggest challenge over the next few years. He says that D-M's estimating team works hard to manage its labor costs, but a shortage of workers will make that more difficult, especially since there is little or no history from which to draw comparisons.

"The challenge is going to be manpower, because workers are scattered between the power plants and the cracker plant. It's our hope that by the time UPMC gets started will be over the hump with the cracker plant," Macurak says.

Macurak says he can understand the allure of working premium hours at a major project, which helps with pensions and annuities for ironworkers. He expects that even workers who suspect they will burn out after a few months will feel that it's worth it to put a few extra dollars in their pockets. Thus far, he says, he hasn't received those kinds of calls from his crews. Two of his workers did take assignments at the Shell project for this winter, having been promised inside work on the loading docks. Macurak laughs at the thought of trying to entice them back.

"So they're going to work into the winter inside while I'm going to call and say I have this great job where you'll be hanging in the air and it's going to be 28 degrees, with ice and snow," he chuckles. "That's not only D-M's dilemma, I think everyone is finding that."

D-M Products fabricated, supplied, and installed the dichroic glass curtain wall at Carnegie Mellon's Scott Hall. Photo by Jeremy Bittermann.

With busy times ahead, Macurak says he has begun thinking and talking about the transition of D-M Products with his son Michael, who joined the family business in 2011. Dick Macurak Sr. still comes into the office at age 87, and Macurak jokes that he fears he has seen a glimpse of his future.

"People keep asking me when I'm going to retire and I ask how the son can retire before the father," he jokes. "We joke internally that we have any interesting retirement plan. We quit paying you but you have to still keep coming in. That's working out well with my dad so I guess I have that in my future. The hope is to take it to the third generation. I think only something like eight percent of companies ever get to a third generation so that would be something I think we would be proud to achieve."

In addition to Dick and Mike Macurak, D-M Products has seven full-time employees in the office. Mike Stroupe is vice president of operations. Tim Mackin is senior project manager. Bill Sharp is project manager. Lisa Sbei is the office manager. Its field crews are comprised of union ironworkers. The crews have varied from as few as two to as many as 130. Macurak believes he will need as many ironworkers as he can get in the next few years.

"We're coming off a big year. We just finished up the Tepper Quad with PJ Dick," he says. "We're sort of in a lull right now but we are gearing up for a big year. UPMC is a good customer of ours and has been for a number of years. When you look at the vision they put forth it's just incredible. It's a lot of glass and we're excited about the opportunity."

D-M Products is investing towards the growth that Macurak sees coming. It is adding 10,000 square feet to its offices, expanding the office slightly and adding capacity to the shop. Macurak says D-M has already bid the Vision and Rehabilitation Hospital at UPMC Mercy and Allegheny Health's new Wexford Hospital. He sees the beginnings of the wave coming and jokes that if it all doesn't go well, he has an alternative plan for the business.

"We have the perfect name. All we have to do is change one letter and we can be D-M Produce. We can be out of here selling bananas!" BG

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E-DISCOVERY FOR BEGINNERS – HOW TO PROTECT RELEVANT INFORMATION WHILE REDUCING E-DISCOVERY COSTS

BY SAMANTHA L. BRUTOUT, ESQ.

You are the prime contractor on a very large project. Your team has been working on the project for six months. So far, everything has been going pretty well. You navigated the RFP process, won the job, and began working on the project. The first six months of the project had some challenges, but you are making steady progress. Then, problems start to arise. One subcontractor stops showing up. Problems occur with scheduling and materials. The Owner stops paying change orders. You continue to work on the project, but, more and more, it looks like litigation may occur and, possibly, multiple litigations. You start thinking about hiring lawyers and outside experts. You also start thinking about all of the information you might need in case a lawsuit does occur. How do you preserve it? How do you collect it? Below are some considerations for preserving and collecting data before litigation commences and after litigation is filed.

Pre-Litigation

As soon as you realize that litigation is possible, you will want to begin taking affirmative steps to ensure that relevant data is being preserved. The first step to preserving data is to determine exactly what types of data your company and employees generate on the project. This is particularly critical for the employees who are the most involved with the issue or issues that are most likely to be litigated. The definition of "data" is rapidly expanding and requires companies to really think about how they communicate both internally and externally on a project. How are the official project records maintained? Are they kept in paper/hard copy? Are they scanned and uploaded to a document management system like Prolog? If so, are electronic copies of those documents kept somewhere other than the document management system? Is email utilized on the project? If so, how long is email preserved in the ordinary course of business? Answers to these questions will guide what data will need to be preserved and where it needs to be collected from in the case of litigation.

You also want to consider what types of devices employees use for project-related communications. Do employees have desktop computers or laptops? If they have laptops, are they automatically "backed-up" on the company's server or does the employee have to take some sort of affirmative step to back-up the material stored on the laptop? Do employees have iPads or other tablets that they use for project-related purposes? Do they have company issued phones? Do employees use their personal phones for business purposes? Do employees keep journals or other handwritten notes related to their work on the project? As the number of different types of data increase, new and different forms of data must be considered for preservation and collection, particularly for younger or more tech-savvy employees who may be leveraging technology in their daily work practices.

Once you determine what type of data is being used, the next step is to make sure it is being preserved. If your company has a document deletion or destruction policy, you should consider suspending the deletion or destruction policy, particularly for those key employees who are most likely to have information relevant to the critical issues. If employees need to take affirmative steps to make sure that the information on their laptop is backed-up to the company server, remind employees that they must follow company policies to back-up their laptops. If there is no policy, remind employees to frequently back-up their laptops. Additionally, if a key employee leaves the project or leaves the company altogether, you will want to ensure that all of their project-related data is preserved before their computer is repurposed and provided to another employee.

To further ensure that all relevant data is being preserved, you also may want to consider sending a litigation hold notice to all employees who may have potentially relevant data even before litigation formally commences. Being as proactive as possible will ensure that you have all the data you need to litigate any issues that may arise.

It is also important to note that locating and preserving potentially relevant data is not only important when you think your company may be sued and may need records to defend against claims, but also when you think you may have to initiate litigation. You do not want to be in a position where you have to file a lawsuit against someone only to realize that you do not have the data that you need to support your claims.

Before litigation commences you also may want to take some time to organize the data. This may seem like an unnecessary step, but if your electronic data is organized it can save thousands and even tens of thousands of dollars in e-discovery costs after litigation commences. For example, if employees work on multiple projects, the best practice is for the employee to organize his or her email by folder so that each project has its own dedicated folder. If employee email is organized by folder and litigation ensues in one of their projects, it may be possible to collect only the folder of email devoted to the project at issue as opposed to their entire email inbox. This small organizational change could be the difference between collecting 100 gigabytes of email (the entire inbox) per employee vs. 10 or 15 gigabytes of email (the applicable folder for the project) per employee.

"With some thoughtful planning, e-discovery does not need to be scary and can be a critical part in ensuring a successful outcome in your litigation."

Similarly, as you start each new project, consider creating a specific, new location on your server to store records related to the new project. If electronic records from different projects are co-mingled on the server, it may be necessary to collect all electronic records from all projects (as opposed to just the specific project at issue in the litigation), which could cost tens of thousands of dollars. The same is true for paper documents. Make sure that with every new project, you are storing paper documents in a new location and not comingling them with paper documents from prior projects.

Post-Litigation

Someone has filed a lawsuit against you (or you have filed a lawsuit against someone). Now what? If you have followed some of the pre-litigation steps discussed above, identifying and collecting relevant data for litigation will likely be smoother because you have already had some discussions with the key employees about what data needs to be collected and where that data is stored. The first step is to work with your attorneys to identify which people are the most likely to possess information relevant to the issues in the lawsuit. This step is critically important and should include people that will provide the categories of information necessary to establish or defend your claim. You should not only consider people who are on the job site every day like the project manager, superintendent and foreman, but also main office staff such as bookkeepers, accountants and controllers who have the records of the profits and losses on the job. Once these people are identified, with the help of your attorneys, you will want to talk to each one of these people (hopefully for the second time) to finalize what data (both electronic and paper) they have and where they keep it.

After the data is identified and located, it will need to be collected. Different companies have different policies for the collection of data in litigation. Some companies prefer to do the document collection on their own and then hand the data to their attorneys. This method for document collection generally works best when the company has experienced IT people who have been involved with litigation-related document collection. If you do not have experience with a litigation-related document collection or have limited in-house IT expertise, you should consider having your lawyers and their e-discovery professionals collect the data. Although it may be an additional litigation-related expense, having a forensic analyst collect the data should ensure that you are collecting not only all of the data that is needed, but also all of the metadata and other information that can be critically important in litigation.

After the data is collected, the parties to the lawsuit will likely discuss (and, hopefully, agree upon) responsive search terms. What this means is that the parties will agree on the search terms that will be run against all of the data that is collected by all of the parties in the lawsuit. In any lawsuit, creating search terms is almost an art form. You need to consider the key words for the issues in the lawsuit, while making sure that you are not pulling back every single record that was created during the course of the project. For example, sometimes key names such as the project manager's or the superintendent's names are suggested as search terms, but those types of terms are usually extremely over inclusive. If someone's name is a search term, every email and every project record with their name on it will be picked up by the search term, regardless of the other content of the document. If the name is common, it can lead to even more false hits. Instead, try to think of terms that are related to the issues in the litigation. If it is a lawsuit that involves a subcontractor's work on the project, think about terms that are directly related to the work that subcontractor performed on the project. Your attorneys and e-discovery consultants will likely take the lead on drafting the search terms, but it is important to think about the key issues involved in the litigation as you review and advise on the search terms. In lieu of, or in addition to, search terms, you may also want to have discussions with your attorneys about the use of analytics or other technology-assisted document review techniques to identify potentially responsive documents.

Another consideration after the lawsuit is filed is whether to engage an e-discovery vendor to assist in document collection, review, production, and document storage. For parties who have never been involved in a litigation that has an e-discovery component, the potential costs of engaging an e-discovery vendor can be shocking. Depending on the size of the case, however, engaging an e-discovery vendor who can organize and manage the data and assist in creating a platform for an efficient document review can be critically important, particularly when it comes to the review of the opposing party's documents. With the explosion of email and other electronic data, having an organized, efficient way to review the relevant data is becoming an increasingly necessary part of litigation. Your lawyers can also offer some recommendations about whether it is advisable to engage an e-discovery vendor and, if so, who to engage.

With some thoughtful planning, e-discovery does not need to be scary and can be a critical part in ensuring a successful outcome in your litigation. BG

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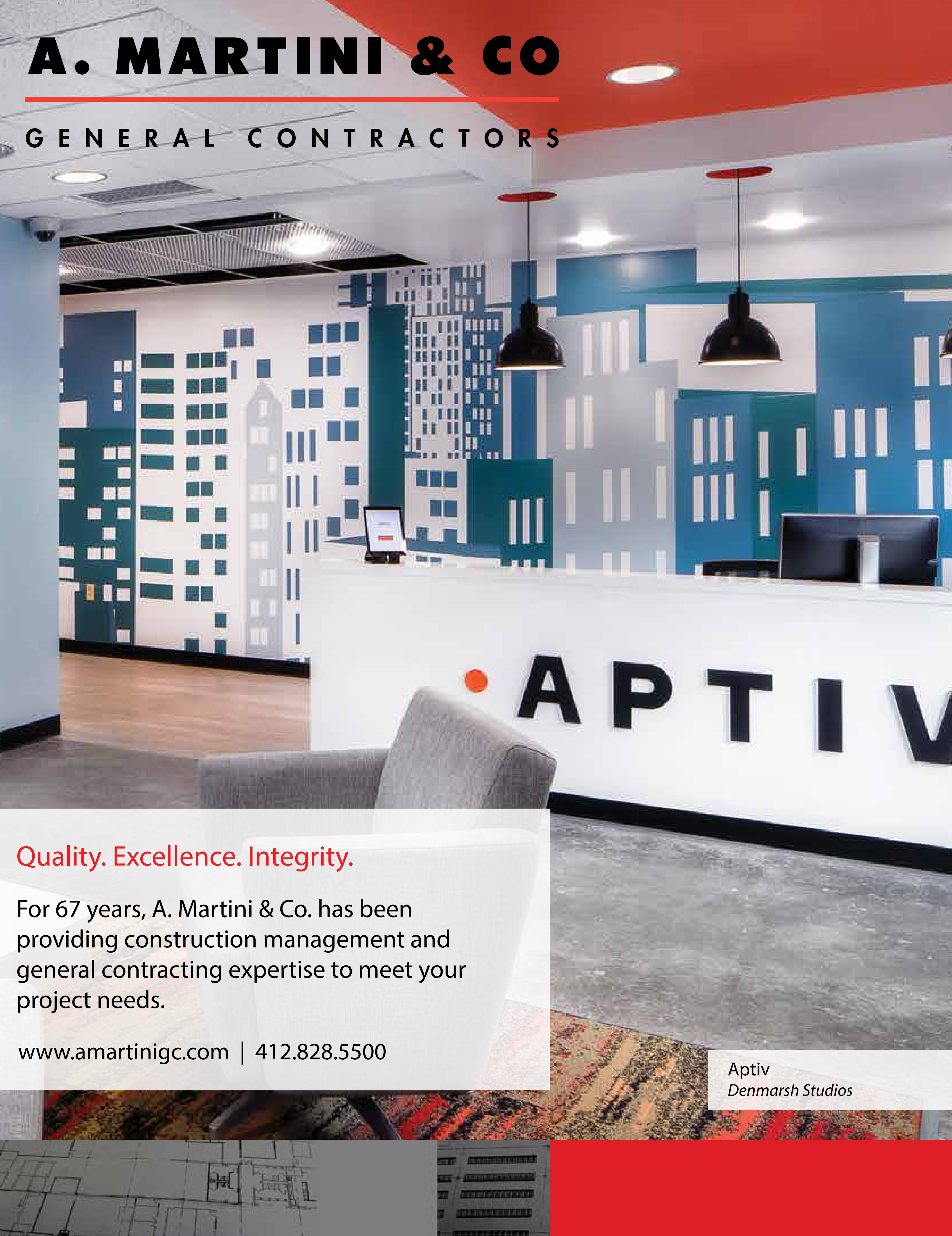

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QUALIFIED OPPORTUNITY ZONES: INVESTORS WANTED – BUT PROCEED WITH CAUTION

BY JUNE E. SWANSON AND KEVIN F. ISRAEL

The 2017 Tax Cuts and Jobs Act established an important investment vehicle designed to benefit both individual taxpayers and distressed communities – the Opportunity Zone Program. In an effort to spur development in lower-income areas across the U.S., the program allows investors facing a hefty capital gains tax bill to contribute the cash equivalent of the gain into an Opportunity Fund, which in turn invests that money in businesses and properties in approved Opportunity Zones. The Opportunity Zones, which include both rural and urban communities, were selected from low income census tracks that already qualified for New Markets Tax Credits. Each proposed zone was designated by the state governor and approved earlier in the year by the federal government. Eighty-six Opportunity Zones were identified in the 10-county Southwestern Pennsylvania Region.

Though the Opportunity Zone program presents a host of valuable options for real estate investors looking to offset impending tax implications, careful attention should be paid to ensure investments are made in the most efficient way.

Benefits for taxpayers

Investing in Opportunity Funds provides three tax incentives for taxpayers:

- Deferral of tax on capital gains invested into an Opportunity Fund (taxed on the earlier of December 31, 2026 or when investment in the Opportunity Fund is sold);
- Partial reduction of the deferred gain (in addition to the deferral of the original capital gain) through a step-up in basis by 10% if the investment is held for 5 years and 15% if the investment is held for 7 years; and
- Total exclusion of Opportunity Fund gain on the sale or exchange of the interest in the Opportunity Fund held for at least 10 years through an increase in basis to fair market value.

Taxpayers holding their investments in Opportunity Funds after December 31, 2026 will be forced to recognize the deferred gain (and pay the resulting capital gain tax) even though their investment is not liquidated. Taxpayers should plan for this by having adequate cash on hand from other sources to pay the resulting tax. Taxpayers could partially liquidate their Opportunity Zone investment to raise cash to cover the December 31, 2026 tax bill, but that will reduce the full potential benefit available from the investment (i.e., potential exclusion of the full capital gain from taxation).

To take advantage of these benefits, within 180 days after the sale or exchange of a capital asset to an unrelated party, the same taxpayer must reinvest the resulting capital gain into an Opportunity Fund.

Setting up the Opportunity Fund

The Opportunity Fund can be a partnership or a corporation (or a limited liability classified as a corporation or partnership for tax purposes). The investor receives either stock or an interest in the Opportunity Fund. The Opportunity Fund must meet a 90% Asset Test (measured at 6 months after formation and at the end of Opportunity Fund tax year) in a Qualified Opportunity Zone Business (stock or partnership interest) or in Qualified Opportunity Zone Business Property, both of which must be acquired after December 31, 2017. Significant monthly penalties are imposed on the Opportunity Fund (and investor) for failure to meet the 90% Asset Test. Opportunity Funds may self-certify, but there does not appear to be any approval process.

A Qualified Opportunity Zone Business may be any type of business except a "sin" business (i.e., golf course, country club, massage parlor, hot tub facility, suntan facility, racetrack, gaming facility or liquor store) and must meet property and income tests as follows:

- Substantially all of its tangible property (owned or leased) must be a qualified Opportunity Zone business property (defined below)
- Property must be used in the qualified opportunity zone during substantially all of the ownership period
- Less than 5% of its property can be attributable to non-qualified financial property

- At least 50% of its total gross income must come from active conduct of business in a qualified opportunity zone

Qualified Opportunity Zone Business Property is tangible property (no restrictions on type) used in the trade or business which is:

- Acquired by purchase from an unrelated third party after December 31, 2017;
- Either the original use of the property begins with the Opportunity Fund or Qualified Opportunity Zone Business or the Opportunity Fund or Qualified Opportunity Zone Business substantially improves the property (capital expenditures must equal or exceed basis in 30 months); and
- Substantially all of the use is in a Qualified Opportunity Zone.

Establishing the Program

The brainchild of the Economic Innovations Group –a bi-partisan think tank funded by tech billionaire and Facebook founder, Sean Parker – the Opportunity Zone Program evolved from the Investing in Opportunity Act first introduced into Congress in 2016. The primary sponsors were Senators Cory Booker (D-N.J.) and Tim Scott (R.-S.C.) and Congressmen Pat Tiberi (R-Ohio) and Ron Kind (D-Wisc.), but by the time it became part of the Tax Cuts and Jobs Act in 2017, it had more than 100 congressional co-sponsors. The Opportunity Zone Program did not make it into the initial House version of the tax reform bill, but Senator Scott maneuvered it into the Senate version. Senator Booker refers to Opportunity Zones as "domestic emerging markets" (Forbes, 7/17/18, An Unlikely Group of Billionaires and Politicians Has Created the Most Unbelievable Tax Break Ever) "If we can get the trillions of dollars off the sidelines and get the best investment minds coming into our communities, we can end up creating jobs and opportunity."

The Opportunity Zone Program is designed to appeal to a variety of investors from the traditional real estate developer to venture capitalists to the tax credit project owner trying to sweeten the return on its projects. Since the Opportunity Zone Program requires the substantial improvement of the property within 30 months and given the 90% Asset Test% that Opportunity Funds are subject to, cash investments must be put to work quickly. Venture capitalists can have significant impact on start-up businesses located and operating in the Opportunity Zones, which at the time of designation, experienced an individual poverty rate of at least 20 % and a median family income no greater than 80 % of the area median.

Proposed Regulations

On October 19, 2018, the Department of Treasury and the IRS issued Proposed Regulations along with a Revenue Ruling providing certain guidance to taxpayers on the Opportunity Zone Program. Not all the questions were answered, but significant direction was provided for the operation of an Opportunity Fund and the Qualified Opportunity Zone Business. Potential investors are advised to review the regulations carefully in advance of making any significant contributions to an Opportunity Fund.

The Proposed Regulations provide clarification on which types of taxpayers can defer capital gains under the Opportunity Zone provisions. They include any person or entity that recognizes capital gain for federal income tax purposes including individuals, partnerships, "C" and "S" corporations, REITs, mutual funds and trusts. For pass-through entities such as partnerships, "S" corporations and trusts, there are special rules which allow either the pass-through entity or the entities' partners, shareholders or beneficiaries to make the deferral election. Pass-through entities should update their governing documents (partnership agreements, operating agreements, etc.) to provide notice and coordination provisions concerning the deferral elections.

The Proposed Regulations also clarify which types of capital gains are eligible for deferral. These include gains on the sale of collectibles (such as artwork), capital gain dividends recognized by owners of mutual funds and REITs, and "unrecaptured Section 1250 gain" on real estate sales.

The IRS addressed the 90% Asset Test that an Opportunity Fund needs to pass at 6 months and at tax year end. Under the "safe harbor" adopted by the IRS, cash and other financial property count toward the 90% Asset Test if the Opportunity Fund has written records to show that those amounts will be held for the acquisition, construction or substantial improvement of Opportunity Zone Business Property and that the amounts will be (and are) expended within 31 months. The "written records" do not need to be provided to the IRS when the asset test is evaluated but need to be available should the IRS perform an audit.

Another "safe harbor" is provided to determine whether "substantially all" of the tangible property held by a Qualified Opportunity Zone Business is Qualified Opportunity Zone Business Property. If 70% of the tangible property owned by the business is Qualified Opportunity Zone Business Property, the "substantially all" standard is met.

Of particular interest to real estate developers, the Proposed Regulations and the Revenue Ruling provide that Qualified Opportunity Zone Business Property can be "substantially improved" in 30 months if only the basis of the building is doubled within that period. The land--provided it is all within an Opportunity Zone-- can be excluded from basis for purposes of that calculation.

The Bottom Line

These are win-win projects for both the investors looking for tax perks and the community, which may have been largely ignored in previous federal programs. Community leaders are mindful that gentrification doesn't force out those within the community that the Opportunity Zone Program was designed to benefit. Investors can expect to see local government and nonprofit leaders take an active role in ensuring that residents are hired during construction and that plans include affordable housing and good paying jobs to permit those residents to remain.

These are win-win projects for both the investors looking for tax perks and the community, which may have been largely ignored in previous federal programs.

Many potential investors were sitting on the sidelines waiting for the IRS to release regulations. Now that the IRS has issued guidance addressing many of the uncertainties, the flow of money is expected to accelerate into Opportunity Zone projects. Developers with projects planned in Opportunity Zones that will qualify for these investments should be aligning with local leaders to best position themselves for Opportunity Fund dollars. BG

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MBE / WBE COMPANY SPOTLIGHT

SUPREME TRAFFIC CONTROL SERVICE

Floyd Edwards didn't necessarily read The Art of War in preparation to launch his company in the construction industry, but he jokes that he has found it applicable. The owner of Supreme Traffic Control Services, Edwards prepared for self-employment by reading voraciously, and his level of preparation has been a significant contributing factor in Supreme Traffic Control's early success.

Supreme Traffic Control is a minority-owned company that provides traffic control services and flagger training nationwide. Founded in April 2017, the company has 15 certified flaggers available for duty, and Edwards recently acquired the first dump truck in what he hopes will be an expansion of his core business into trucking. Although he serves the construction industry, Edwards says that his company is in the people business, regardless of what those people are doing. That philosophy guides his plans for what he sees to be a multi-division enterprise within five years.

Born and raised on Pittsburgh's North Side, the 31-year-old Edwards worked as a carpenter in Local #441. He credits his mother and father with instilling in him the drive to work hard and continually educate himself. While he worked as a carpenter he read dozens of books on leadership, corporate successes and business law. Edwards explains that the idea for his business came from a short stint doing flagging as a part-time side job. The job paid nearly $23 per hour but it dawned on Edwards that the company he worked for was being paid quite a bit more than that. When his employer shut down, Edwards saw an opportunity.

"I got to the point where I realized that I didn't necessarily want to work for someone else. I wanted to do my own thing. I wanted to control my own destiny," Edwards says. "I had to go to Baltimore to get the training and certification to become a flagger instructor. After that, I incorporated, and it was off to the races.

"I train flaggers. I certify them and hire them to stop, slow and proceed traffic. The majority of the business is as a subcontractor to the highway contractors and utility companies. When I first started, all the revenue was from certification. Once I got my first contract with Hanlon Electric in March, it's been pretty much just providing flaggers. My plan was to do a little bit of both. With the PennDOT jobs we're currently working on I need certified flaggers out there. I'm able to get them in the classroom and get them certified so they can work at a PennDOT job the next day."

One of the keys to Supreme Traffic Control's growth has been the ability to recruit workers in a market that has virtually full employment. Although Supreme Traffic Control's business has shifted more to flagging, Edwards says that the most recent certification class has 40 students. For good students, certification can be achieved in four hours. Edwards notes that there has been no increase in the marketing of the certification classes, but that the results have been greater because word has gotten out in underserved communities about the opportunity to earn.

"When you're paying people $23, it's pretty attractive," he says. "Actually, I look for people who haven't had that much luck in life but are looking for an opportunity. Those are the people who are hungry to get out there and make some money. Those have been my best workers. Most of my employees have come from word-of-mouth. I'm not big on social media. I have a website, but I'm not posted things on Facebook or Instagram every day. I'm letting word-of-mouth run its course and it's working out."

The ability to recruit and train workers in such a short time is an advantage for Supreme Traffic Control. Edwards knows that he has an edge in being able to tell a potential employee that they can be making a living wage, and be working, within 48 hours. That urgency helps him gauge how serious a candidate is about working. He takes the process a step further by having his current employees participate in the training and paying them a bonus to do so. A new employee gets to hear from someone in the field about jobsite realities at the same time they are getting the classroom training.

Supreme Traffic Control will need that pipeline of new workers when the spring construction season begins in 2019. Edwards estimates that his backlog will require

Sha'Ron Jackson, Floyd Edwards and Frances Bowser.

that his full-time field staff grows to 20 employees. Supreme Traffic Control has landed the contract for the new Wellsburg, WV to Brilliant, OH bridge that will require flaggers for three-and-a-half years. For someone who tried to prepare for anything his new business could throw at him, Edwards admits that his customers' demand grew faster than he expected.

"The biggest surprise is how many flaggers one company can need at one time," he laughs. "I was thinking that my customers might need two or four flaggers on any one day but there have been times when companies needed ten or a dozen flaggers."

The biggest challenge Supreme Traffic Control has faced, Edwards says, is countering the perceptions that contractors had about small minority-owned businesses. He says that Supreme has had to work to get paid in a timely manner or fully, and he is vigilant about the company being taken advantage of by bigger, more established companies. Edwards anticipated that aspect of self-employment prior to starting his company. That's where the Art of War came in handy.

"I have a good legal team. I understand the ins and outs of what I'm owed, and I can figure out who to go to if I'm not getting paid," he says. "I'm also able to pay my employees for a long period of time so I can't be dragged out. I knew that they were going to throw curve balls at me."

In preparing to get into business Edwards also relied on his propensity to soak up the experiences of those around him.

"I want to find out what difficulties you've been through, so I can avoid them," he chuckles. "That's how my brain works. I want to find out what are the good things that you do that I can take with me; and what are some of the things you went through that I can avoid. I try to take that from everybody, whether it's a kid, old man, wise man or fool. I think of myself as a student."

He's quick to credit those who have helped him get Supreme Traffic Control up and running. Edwards is particularly grateful to Bridgeway Capital, where he took his idea for his business. He says they put him through his paces, but the process made him more confident and better prepared to succeed.

"I went to Bridgeway Capital because I had heard that they were very helpful in getting people started, especially minority businesses," Edwards says. "They gave me a long list of things I had to do. I did that long list of things they gave me to do and they agreed to fund me. Bridgeway helped me with my website, my business cards. They pointed me in the right directions. They give me a business consultant who helped me put together my first contract."

That first contract is part of Supreme Traffic Control's portfolio now. After a successful summer and fall of building backlog, Edwards sees the challenge in taking the next step in growth, and he's anxious for the opportunity.

"I tend to worry about every detail. I'm always worried about if my people are at the jobsite on time. Do they have what they need? If we're late we are holding up the entire job. You always have to be on top of your game, but it's my baby," Edwards says. "Starting in March, we're going to be on a lot more jobsites so that's why my team leaders will no longer be flaggers. They will be supervisors. All the things I do to make sure things run smoothly now, they will have to do." BG

SUPREME TRAFFIC CONTROL

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TREND TO WATCH

Crowdfunding for Real Estate

One benefit of the rise of social media is the ability to raise awareness and funds for causes and organizations that could never have reached a mass audience otherwise. This phenomenon, known as crowdfunding, is well known for helping to raise large sums of money to aid those who have experienced a great loss or tragedy, like J. J. Watts' $30 million Hurricane Harvey relief fund. That principal, using a worldwide platform to attract millions of small gifts, has been adapted to commercial use. With a little regulatory help, crowdfunding has come to commercial real estate as an alternative financing method for development deals.

The mechanism for crowdfunding is Title III of the Jumpstart Our Business Startups (JOBS) Act of 2012. Given the banking environment in 2012, and the suffocating regulation that was imposing risk assessment rules that kept startup funding limited, there was a rationale for providing an alternative to regular bank financing. It took until 2015 for the Securities Exchange Commission (SEC) to create rules for Regulation Crowdfunding (Reg CF), which was permitted starting May 16, 2016.

Reg CF works through approved portals that connect borrowers and investors, marketing the opportunities and putting together the deal structure for the offering to the public. A private, self-regulating agency called the Financial Industry Regulatory Authority (FINRA) is the approval body for Reg CF portals. One of the principal advantages of a Reg CF offering is that it does not require investors to be accredited, meaning that individuals with a net worth less than $1 million or other small investors can fund deals.

Prior to the SEC rule-making that allowed unaccredited investors to participate in crowdfunding, the innovation produced notable results with accredited investors. Crowdfunding also hit its first speed bump.

"Crowdfunding started with a bang. There were more than 100 firms trying to attract investors for a variety of deals," explains Ian Ippolito, editor of The Real-Estate Crowdfunding Review. "There was a bang at first, but then there was a shakeout that occurred after the problems with LendingClub."

LendingClub was an overnight success story, attracting millions of investors to lend money for a number of industries, although not real estate. LendingClub intended to revolutionize finance and went public in a multi-billion dollar IPO after a couple of years. Evidence of fraud in LendingClub's operations confirmed some of the fears about peer-to-peer lending and chased investors away from the fintech space. That tide has turned by 2018 and, with the addition of the unaccredited investor to the marketplace, crowdfunding for real estate is growing briskly.

As of October 16, there were 47 FINRA-approved portals operating in the U.S. that have financed $135 million in two years. Only two of those are in Pennsylvania. Both are in Pittsburgh. One, Honeycomb Credit, is a recent startup focusing on investing in businesses. Some of its borrowers include Tall Pines Distillery, Pittsburgh Pickle Company and Millie's Ice Cream Truck. Most of Honeycomb Credit's offerings thus far have been crowd-raises of $50,000 or less. The other crowdfunder is NSSC Funding Portal, also known as Small Change, which was founded by Eve Picker.

Picker is a veteran of Pittsburgh's real estate market. She has embraced the city and has done disruptive deals for 25 years. An architect, Picker formed No Wall Productions in 1997 and began adapting "sliver buildings" Downtown into residential buildings. No Wall pioneered Downtown living ahead of the trend that is now taken for granted. In 2016, she decided to get ahead of the curve in real estate financing.

"I was a real estate developer in Pittsburgh and active for about 15 years. Then the political climate and the banking disaster shifted things for me," Picker says. "The projects I focused on were in underserved neighborhoods and were pubic private partnerships, so I didn't have equity partners. I relied on funds that the Urban Redevelopment Authority (URA) had or other sources like that, like historic tax credits, to put deals together that banks were basically not interested in."

Picker remained committed to developing impactful urban projects but the financing environment was difficult. When the URA's funding stream dried up, she stopped doing real estate development. Several years later a builder told Picker about the JOBS Act and how it might be applied to financing projects like the kinds she had a passion for doing. After looking into it, Picker's interest grew, and she founded Small Change.

"In the last 20 years we've have gone from 15,000 banks in this country to under 5,000, so community banking has died," she says. "I don't think we're going to replace traditional financing. Hotels, office in the suburbs, repeat buildings are never going to have trouble getting financing. But it's projects that are the first of its kind, in underserved neighborhoods, that really need to happen to make cities better that can't get financing. That's the niche we are filling."

Small Change has financed several of the kinds of projects that Picker describes in Pittsburgh. There was a tiny house in Bloomfield that did not have a comparable appraisal for financing and sold in six weeks, returning investors 7.5 percent in under one year. Small Change raised $300,000 for renovations to the Liberty Bank Building in East Liberty, a project for which Picker received a bank commitment for only 40 percent of the funds needed to renovate the property, which is stabilized and cash flow positive.

Renovations to the Liberty Bank Building in East Liberty were crowdfunded in part by a $300,000 offering by Small Change. Photo by Rob Larson.

Another project, the Buvinger Building in Lawrenceville, raised $238,500 in equity for a young developer who needed $950,000 to buy and renovate the Buvinger into a mixed-use property on Butler Street. Offering eight percent return on a five- to ten-year term, the developer returned investors' money in two years at an internal rate of 21 percent.

Each of these three projects had an element that pushed the project outside the comfort zone of traditional lenders. Without crowdfunding, it's possible – if not likely – that none of the projects would have been built. Small Change has been involved in a dozen projects from Pittsburgh to Los Angeles, and currently has three projects open to funding in Philadelphia and Baltimore.

Ippolito points out that there are some inherent limitations in crowdfunding real estate. The lack of property inventory is one, since investors should ideally have dozens of properties to diversify their portfolio sufficiently. Along the same lines, the diffusion of platforms exaggerates this problem, as each platform has a handful or so offerings, forcing an investor looking for diversification to scour dozens of platforms. For investors who are unfamiliar with real estate investing, the effort needed to become educated is much greater than what is needed to invest in a crowdfunding source for consumer loans. Perhaps the biggest impediment is the difficulty of performing due diligence, which needs to be done on both the property and the platform.

The solution to these problems would be the imposition of third-party information sources, like the bond ratings agencies or Morningstar for mutual funds, that could be clearing houses for evaluation of platforms or deals. There is little or no opportunity for such a source in crowdfunding at the moment.

"The sponsors have squelched that in a way that they couldn't do in a public market," says Ippolito. "There are non-disclosure agreements for each offering that prevent investors from talking about any opportunity with anyone else. It's understandable. The platforms don't want their competition finding out what they are doing, but lack of information about the real estate is an unintended consequence."

As a private investor, Ippolito started The Real-Estate Crowdfunding Review as a way to syndicate his own research and provide information to potential crowdfunding investors. He founded an investment club, which is another response to the need to know more about the market and individual deals.

Even with these limitations, real estate crowdfunding is growing. It's worth noting that the rules that guide RegCF investing are 18 months old, and time is likely to eliminate many of the limitations through scale. Crowdfunding may also be helped by another measure in a tax bill. The Tax Cuts and Jobs Act of 2017 created opportunity zones for investing that defers or eliminates capital gains. Portals that can combine – and explain – investments in opportunity zone projects with the scale of RegCF may be able to reap the benefits from helping defer and reduce the taxes on capital gains of small, unaccredited investors.

The future of crowdfunding real estate looks upbeat. The majority of the projects that the young industry has financed have been successful thus far, but the industry is in its infancy and too little time has passed to have a clear idea of how many of the pro forma returns on investment hit their targets. Crowdfunding real estate has only operated in a growing commercial real estate market. As a funding source, crowdfunding has yet to weather its first commercial real estate downturn. Projects that lose money will ultimately happen. How many of those will it take to chase investors away?

It's hard not to argue that traditional lending and equity raising have left a void in the market since 2008. The rationale for projects that might seem too different to entice a banker to risk being wrong could be compelling to a pool of thousands of investors who expect to take that risk. By spreading the risk of financing among dozens of small investors, developers are making a case to an audience that sees the risk in proportion to the investment. The risk associated with $500,000 borrowed from one bank looks different than the risk of $500,000 lent by 50 individual crowdfunding investors. This is certainly a feasible model for funding unique or groundbreaking projects.

There are still the limitations of small scale for crowdfunding, and Reg CF has the further limitation that unaccredited investors cannot be solicited, meaning that marketing and educating the unaccredited investor will be more difficult. Virtually all of that effort must come through the auspices of the portal's website. But it's not hard to imagine that the dynamics of crowdfunding that have allowed individuals to raise hundreds of thousands of dollars over one weekend won't have a meaningful impact on the ability of smaller local developers to finance projects.

"These projects are not necessarily difficult to pencil. They are just unusual in some way," says Picker. "Banks are just so conservative. They are extremely traditional and they just don't know how to look at something that is a different business model. I don't want to blame the banks. They are just following the rules." BG

PROJECT MONITORING: THE EYES & EARS OF CONSTRUCTION

BY ELIZABETH FOSTER

Introduction

A project monitor is key on projects incorporating national remediation and/or construction companies. The potential of large time and expense invoicing or extended production schedules is greatly reduced with the presence of a project monitor.

The importance of a project monitor is to keep the project progressing forward by:

- Assessing the loss
- Quickly navigating equipment and manpower
- Ensuring the equipment and manpower are in accordance with the project at hand
- Providing on-site, real time evaluations
- Recommending and monitoring fair and reasonable expenditures per client expectations
- Daily site presence for observations and reporting

Background

Project monitoring (often compared to Clerk of the Works) is a time-honored tradition in the construction industry dating back to the 13th century when monks and priests took on the role of supervising works associated with the erection of religious facilities. In today's role, the project monitor is much more than simply a Clerk of the Works, they are dedicated to the detailed inspections and documentation of material and workmanship throughout the remediation or building process. Unlike a Clerk of the Works, they are not simply counting items and "ticking and tying" field notes to invoicing.

Ensuring the value of investment, on behalf of the client, is paramount to the project monitor. Daily site presence is crucial. The project monitor routinely remains onsite for the duration of the project as the "eyes and ears" of a third party; reporting on the equipment, labor, materials, and workmanship. They will monitor progressions and delays, while reporting their findings to the client, as these factors impact the project's budget and completion schedules significantly.

Role

The role of the project monitor, while not limited to these items, includes the following:

Daily Reporting Detail

1. Site conditions

- Conditions (weather, temperature, precipitation, etc.) may cause a schedule interruption, depending on the project and task. As an example, strong wind conditions would affect the operation of a crane and subsequent lifts thereby delaying that day's production and possibly the overall project.

2. Labor counts and varying trades

- Different projects require different labor and trade involvement; having enough workers onsite to complete the task is paramount and having too many workers can be counterproductive and add unnecessary expense.
- Daily onsite headcounts of each trade specialty and their designation are recorded. This information is important when discussing productivity and crew ratios, and will be of use during the invoice review.

3. Material deliveries

- As with equipment, each project will require materials and consumables. Having a record of material and consumable inventories, as well as deliveries, will assist the invoice review.

4. Equipment deliveries, removals, and daily onsite count (Fig. 2)

- Projects of all sizes will require equipment and the expense of equipment typically begins the moment it arrives onsite. It is important to know what equipment, and how much of it, is onsite and in use. Having dehumidifiers, air movers, desiccants, generators, forklifts, or even a crane onsite and not in use is an opportunity for discussion and negotiation – no matter the size of the equipment or the project.
- Equipment counts, inventory, and usage are taken daily.

5. Daily site observations

- Daily observations, per trade, are taken as a record of job progressions or interruptions depending on the situation.
- These observations are available to the client.

Figure 3 – Photo Progressions

6. Photo documentation of site progression

- Onsite photos of equipment, labor, and various other details, whether considered relevant or not at the time, are taken daily. Photos are an excellent indicator of project progressions or delays.

Review of Contractor Rate Sheets

- A rate sheet is utilized by most contractors as a calculation of costs such as labor (daily, travel, overtime), vendor/subcontractor (daily, travel, overtime), equipment, small tools, consumables, etc. The rate sheets should be reviewed and negotiated for each project, including crew/supervision ratios and clarification of any vague or hidden fees.
- A discussion of concerns and agreed upon rates is vital as it will become the 'agreed to' at the end of project and invoice review.

EQUIPMENT:

Equipment Type	Quantity	Comments
Scissor Lifts	132	0 not in use
Fork Lifts	5	1 not in use
Telehandlers	5	1 not in use
Booms	8	0 not in use
Baby Scissor	15	0 not in use
2 yard bucket	8	0 not in use, 8 in use
Bobcat	1	1 not in use
Digger	1	1 not in use
Dumpster (30 YD)	9	0 not in use.
Golf Carts	6	1 not in use
Temporary Toilets	18	3 units have been placed at each entry

SITE OBSERVATIONS

The General Contractor is onsite overseeing and supervising all work related to reconstruction.

Per site observations and or discussions with the foreman for Drywall Co., Drywall Co. is performing the following work:

1. Drywall Co. - working 7:00AM to 3:30PM installing insulation, drywall, and then taping, floating and finishing installed drywall.

2. Drywall Co. - Masonite wall protection installation in: House West 1 - 4 and House East 1 & 2.

3. Drywall Co. - Drywall installation for electrical panels: Electrical Room 10 & 12, 247, 427, 434.

4. Drywall Co. - Soffit drywall detail in tenant spaces: 259, 277, 368,370, 371A, 373A, 374, 375, 377, 379, 383, 410A, 410D, 427, 431, and 435

5. Drywall Co. - Drywall hanging, taping, floating and finishing in: Main Corridor North A, B and C, House West Corridor 1, 2, 3 & 4, Main Corridor South B and C, and Main Corridor East, 134, 142, 161, 179, 202, 224, 244, 348, 358, 368, 371, 379, 410A, 410D, 428, 430, 433, 457, 479, 482, 489, 506, 508, 517, 521, 524, 527, 532, and 541.

Daily site observations

Monitor Daily Consumables

- Knowing the daily consumable rate will assist with knowing a crucial element associated with the contractors 'burn rate', especially on a mitigation project.

Familiarization with Drawings and Written Instructions

- Reconstruction projects typically involve engineers and code compliance in design and materials. Being aware of the design details, building plans, installation methodologies, and code enhancements is a communication tool helpful for understanding the flow of the project and potential concerns as a project moves forward.

Being Privy to Potential Specification Design Issues, in Real Time, Before They Affect Cost and Schedule

- If a product or 'as built' has to be modified or material revised due to unforeseen circumstances, these modifications or cost revisions will need to be addressed and communicated to the client for response in rapid succession prior to execution or project delay.

Advising the Contractor but Never Instructing/ Directing the Contractor

- Never give direction however, sometimes challenge the direction given.

- There are opportunities to work alongside the contractor. For example, clarifying what is considered loss related damage and repairs versus what would be considered an improvement.

Attend Contractor and Sub-Contractor Production Meetings

- This activity assists in the understanding of the contractor's methodology and strategic approach in the repair or mitigation of a project. These meetings reveal trade challenges and contractor problem solving abilities while maintaining quality standards; this is a good source of project intelligence and daily reporting.

Attend Contractor and Insured/Owner Production Meetings

- The insured's knowledge of the project progressions or delays is important information delivered by the contractor and observed by the project monitor. Often the project monitor is viewed by the insured as a representative of the adjuster, and as such relies on the project monitor for validation or clarification of the information provided by the contractor.

Update Production Schedules

- As production begins, whether it be mitigation or construction, inevitably a schedule will be presented by the contractor. It is the project monitor's responsibility to be aware, and keep their client aware, of schedule fluctuations utilizing realistic projections for the remaining work.

Audit Contractor Invoices

- Contractor invoices for payment, on larger projects, are typically progressive. 'Agreed to' rates on labor, equipment, materials, consumables, etc., will now be implemented.
- The project monitor has first-hand knowledge and reporting of daily site activity, which will offer insight into verification of contractor invoicing.

DAY SHIFT		NIGHT SHIFT	
REBUILD SUBCONTRACTORS ON SITE	# OF WORKERS	INSPECTION DATE:	# OF WORKERS
Drywall Co. - Project Manager	2		-
Drywall Co. - Foreman	4		-
Drywall Co. - Supervisor	3		-
Drywall Co.- Health and Safety	8		-
Drywall Co. - Admin	1		-
Drywall Co. - Hangers	138		-
Drywall Co. - Finishers	124		-
United Builders Service - General Laborer	52		-

Daily counts, including trades

Address Unresolved Concerns Affecting Project Completion

- When a project is approaching completion and the pant of heavy construction or catastrophic mitigation has subsided, so begins the detail of cleaning and finalizing punch lists. This is the time for the project monitor to stay extra vigilant as these are the details that can keep a job from timely completion.

- The project monitor pushes the schedule and all aspects of the project to the end.

Summary

Today's project monitor provides an independent assessment of the project at hand with the experience, knowledge, and understanding of most building processes. Whatever the project, from mitigating a water loss to the nuances of building a multi-level structure; the project monitor builds a strong working rapport with the construction and design teams to become a true liaison between the teams performing the tasks and the expectations of the client. This is accomplished through the following:

Daily reports

- Review of contractor rate sheets
- Monitoring daily contractor consumables
- Familiarization with drawings and written instructions
- Highlighting potential specification design issues before they affect construction
- Advising the contractor but never instructing/directing the contractor
- Attending contractor and sub-contractor production meetings
- Attending contractor and insured production meetings
- Updating production schedules
- Auditing contractor invoices
- Addressing unresolved concerns affecting project completion BG

Elizabeth Foster is a senior consultant with JS Held, a global consulting firm with specialization in the construction industry. She can be reached at efoster@jsheld.com.

INDUSTRY & COMMUNITY NEWS

On September 21, Mascaro employees took part in the WDVE Rocks for Children's Radiothon. This year, the two-day event raised a record total of $852,539.

(From left) Mike Tarle from AIM Construction, Stantec's Carrie Haines, Amanda Buczynski from DIRTT and AHN's Ryan Krumenacker participated in the ACE Mentor golf outing at Quicksilver on September 17.

Mascaro's Bill Keith (left) and Ron Cortes (right) with UPMC's Phil Corrie and Aaron Bernett (second from right) at the ACE Mentor outing.

(From left) Matt Aiken from Ohio Valley Drywall, Jason Adams from Easley & Rivers, Massaro's John Leuch, and Neal Rivers from Easley & Rivers.

(From left) Ed Primm from Allegheny County Housing Authority, Brian Byers from Northern Trust, Oxford's Mike Barnard, and Jack McGraw, Allegheny County Housing Authority.

Josh Lorenz from Meyer Unkovic & Scott (left), Jendoco's Michael Kuhn and Demeshia Seals from DLRS Consulting at the GBA's Emerald Evening gala. The September 20 event at the Carnegie Science Center celebrated GBA's 25th anniversary.

(From left) Eric Starkowicz from the Master Builders' Association, Robin Zoufalik from Pieper O'Brien Herr, Nello's Gene Boyer and Noah Shaltes from PJ Dick.

Michael Klein from Blumling Gusky (left) with Colleen and Ken Doyno, from Rothschild Doyno Collaborative.

Jendoco's Chris Klehm (left) and Pierre Brun (right) with Gary and Cherie Moshier from Moshier Studio.

(From left) BDO's Nate Shaffer, Beth Anguish, Justin Marchewka, and Cory Swarmer at the October 17 MBA Young Constructors event.

Jendoco's Katey Andaloro (left), MBA's Eric Starkowicz, and Landau's Bethany Sidun.

(From left) Landau's Chris Priest, Randy Krueger and Chet Beres with Lisa Wampler from Cohen Seglias.

Emily Sipes (left) from RIDC, NAIOP's Brandon Mendoza and Mascaro's Alyssa Kunselman at the September 20 NAIOP Pittsburgh chapter meeting.

Bill Wilson (left) from Specified Systems, with McCrossin's Paul Martin at the Pennsylvania Builders Exchange's Customer Appreciation Pig Roast.

Gene Brown from Alliance Drywall (left) and Dave Balmert from J.J. Morris & Sons.

John Mascaro and Alyssa Kunselman from Mascaro Construction, with Josh Garcia from Wayne Crouse at NAIOP Pittsburgh's 19th annual Night at the Fights.

Jennifer Pavlik from DLA+ (left) and Rycon's Danielle McCullough.

Greg LaForest from Bohlin Cywinski Jackson (left) and PJ Dick's John Robinson at the 2018 AIA Design Gala.

Mike Wuerthele from Whitney Bailey Cox and Mangini, Dave Meuschke from Burchick Construction, and Landau's Mike Nehnevajsa and Bethany Sidun.

AWARDS & CONTRACTS

G. M. McCrossin Inc. was the successful general/mechanical contractor on the $6.8 million Grove City Wastewater Treatment Plant Phase IV renovations. The engineer is Gannett Fleming Inc.

Uhl Construction Company, Inc. was awarded a contract by the University of Pittsburgh for Benedum Hall School of Engineering, 120 McKee Place Renovations. The project involves renovation of 3,275 square feet on the first floor and 2,345 square feet on the lower level. Dunn & Associates is the architect.

Marks-Landau Construction, a wholly owned subsidiary of **Landau Building Company**, has begun the interior fit-out for McFly Outdoors, located in Westover, WV. Renovations include 5,690 square feet of tenant space in a new pre-engineered metal building. McFly Outdoors is the third of three tenants to occupy the building. Desmone Architects is the design team.

Landau Building Company began construction management services for the UPMC Shadyside Relocation Enabling Project, where departments will be moving out of the North Tower of Shadyside Hospital. Preconstruction is underway and demolition in multiple areas will begin immediately. Radelet McCarthy Polletta is the designer.

Landau Building Company is performing construction management services for the ISD Infrastructure Upgrades at Magee-Womens Hospital of UPMC. Construction will start in November and DesignGroup is the architect.

The University of Pittsburgh selected **Rycon's** Building Group and Civil Engineering Consultants as the design-builders to demolish two existing buildings on Forbes Avenue in Oakland. The $900,000 project will wrap up late January 2019.

Rycon's Building Group is the general contractor and Radelet McCarthy Polletta is the architect for the new $9.3 million Pressley Ridge School. The 40,000 square foot building is anticipated for a July 2019 completion.

A new $3.2 million Dave & Buster's is underway at The Block Northway by **Rycon's** Building Group. Work started early August on the 40,000 square foot space and will continue until January 2019.

A $3.3 million renovation to a Dave & Buster's in Fairfax, VA is underway by **Rycon's** Special Projects Group. The 40,000 square foot project will wrap up early January 2019.

Phased renovation work will soon begin on the third and fourth floors of RAND Corporation's office in Oakland. **Rycon's** Special Project's Group is the CM at-risk and R3A is the architect.

In Findlay Township, **Rycon's** Special Projects Group is completing a $1.5 million lab expansion for PerkinElmer. Stantec is the architect for this three-month project.

Located within the Cherrington Corporate Center, **Rycon's** Special Projects Group will soon start a 23,000 square foot interior remodel for Waste Management's corporate office. The scope includes painting, new carpet, and wall finishes.

Glimcher Group, Inc. selected **Rycon** to construct a new $1.3 million outparcel shell at Garfield Commons in Garfield Heights, OH. The project is slated for completion February 2019.

West of Cleveland, **Rycon** is completing a $370,000 addition to an existing building at Landerwood Plaza. The project is on track to wrap up December 2018. Bialosky Cleveland is the architect and Glimcher Group, Inc is the Owner.

The Brookpark-Pearl PNC Bank branch in Cleveland is undergoing renovations by **Rycon**. Work on the 2,300 square foot space is roughly halfway complete and will end mid-November 2018.

Rycon was selected to build two new shells totaling 7,200 square feet for future tenants Aspen Dental and Starbucks in Blue Ridge, a mountain town in northern GA. The $1.1 million project will wrap up early February 2019.

Seritage KMT Finance chose **Rycon** as the CM at-risk for a $3.4 million K-Mart shell redevelopment in Miami, FL. The 112,000 square foot project is slated to continue until May 2019.

Rycon landed as #89 on this year's ENR's Top 100 Green Building Contractors List.

A. Martini & Co. will serve as the construction manager for the 165,000 square foot Sage of Hudson in Hudson, MA. The three-story, wood framed independent and assisted living facility will house 148 private residences, a memory care unit, and an underground parking garage. Extensive site work includes demolition of two existing structures, excavation, and work in conjunction with the Town of Hudson for the installation of a new sanitary sewer system, and multiple courtyards. This $31 million project is projected to be completed in early 2020.

PJ Dick's Special Projects Group was selected to provide CM at Risk services to the Pittsburgh Botanic Garden Welcome Center in Oakdale, PA. Work includes construction of a new 7,400 square foot welcome center and an auto garden, which will add 50 parking spaces.

PJ Dick was selected to provide General Contracting services on the Rehabilitation of the 18,000 square foot Visitor Center at Valley Forge National Historical Park in King of Prussia, PA.

PJ Dick will provide CM at Risk services for Emergency Department Expansion at UPMC East in Monroeville, PA.

PJ Dick is the construction manager for Bakery Square 3.0, a nine-story, 328,000 office building in Pittsburgh's East End. Strada Architecture is the architect.

PJ Dick - Trumbull - Lindy Paving was ranked as the #1 Large Company in the Pittsburgh Post Gazette's Top Workplaces 2018.

University of Pittsburgh selected **PJ Dick Inc.** as construction manager-at-risk for the $9 million vertical expansion of the Peterson Sport Complex field house. The architect is DLA+ Architecture & Interior Design.

Highmark awarded a construction management contract to **Mascaro's** Client Services group for renovation work on the 29th floor of Fifth Avenue Place.

Mascaro's Client Services group received a contract from Wabtec for renovation work at their Wilmerding facility.

The Sports & Exhibition Authority awarded **Mascaro** a construction manager at risk contract for the Phase 1 renovations of the fourth floor green roof at the David L. Lawrence Convention Center.

Mosites Construction started construction on the Homestead Bakery Lofts, a 26-unit adaptive re-use of the former bakery for Action Housing Inc. The architect for the $6.8 million renovation is Moss Architects.

Volpatt Construction Co. was awarded a contract for the $6 million IRMC/UPMC Cancer Center at the Indiana Regional Medical Center in Indiana, PA. Stantec is the architect.

FACES & NEW PLACES

Rycon's Casework & Millwork Division hired **Jeremy Camillocci** as estimator. He has over 14 years' experience including eight years as a commercial estimator/component designer.

Rycon's Atlanta office welcomes back **Jared Gutierrez** as preconstruction manager/estimator.

Recent graduate **Kelsey McKenzie** has been hired as a junior staff accountant at **Rycon**. She has a degree in accounting and one year of industry experience.

Benjamin Ramos was added as an assistant project manager in **Rycon's** Ft. Lauderdale office. He's a recent graduate who earned degrees in civil engineering from Florida International University and Universidad Iberoamericana (UNIBE).

Mike Penrod was promoted to vice president of risk management and labor operations. Mike will continue to oversee all of **Rycon's** safety, risk, and insurance related legal issues along with all of the self-performing labor operations.

Robert Ward, P.E. was hired as manager of design/build and business development at **McKamish Inc.** Ward graduated from Gannon University with a BS in mechanical engineering. He is a LEED Green Associate and is president of the Engineers Society of Western Pennsylvania. Ward worked for Astorino/Cannon Design for more than 30 years as a project engineer, project manager, HVAC Department head, senior vice president, and most recently, president of engineering.

Liza Rigucci joined **Mascaro Construction** on October 15, 2018, as a project engineer. She previously worked for the West Virginia University as a project engineer in the Facilities Management Design and Construction department.

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Massaro Corporation

Vice President
Todd A. Dominick
Rycon Construction, Inc.

Treasurer
Raymond A. Volpatt, Jr., P.E.
Volpatt Construction Corporation

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Carl Walker Construction, Inc.
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Dick Building Company
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Scalise Industries Corporation
Schnabel Foundation Company
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DesignGroup
Dickie, McCamey & Chilcote, PC
Dingess, Foster, Luciana, Davidson & Chleboski LLP
Dollar Bank
Eckert Seamans Cherin & Mellott
ECS Mid Atlantic, LLC
EPIC Insurance Brokers & Consultants
84 Lumber
FDR Safety, LLC
Foundation Building Materials
Gallaway Safety & Supply
GPRS
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Loftus Engineers, Inc.
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m/design
Maiello, Brungo & Maiello
Marsh
Metz Lewis Brodman Must O'Keefe, LLC
Meyers Company
Meyer, Unkovic & Scott LLP
Michael Baker International
Mobile Medical Corporation
Multivista
NCI - Nursing Corps
Ohio Valley Drywall Supply
PAC-VAN, Inc.
Philadelphia Insurance Companies
Pietragallo Gordon Alfano Bosick & Raspanti, LLP
Pittsburgh Mobile Concrete, Inc.
Precision Laser & Instrument, Inc.
Providence Engineering Corporation
PSI
R.A. Smith National, Inc.
R.J. Bridges Corporation
Red Wing-Monroeville
Reed Smith LLP
Risk Ergo - Allied Insurance Brokers, Inc.
Ross Bianco, Architect/RBA International, Inc.
Rothman Gordon, P.C.
Schneider Downs & Company, Inc.
Scotti Law Group
Seubert & Associates, Inc.
Steptoe and Johnson PLLC
Suburban Propane
Tarax Service Systems, Inc.
The Blue Book Building & Construction Network
The Garland Company
The Gateway Engineers, Inc.
The Rhodes Group
Tioga HVAC Rentals
Tom Brown, Inc.
Travelers Bond & Financial Products
Tucker Arensberg, P.C.
UPMC Work Partners
USI Insurance Services
VEBH Architects, PC
Veka, Inc.
Wilke & Associates, LLP
Willis of Pennsylvania, Inc.
Zurich NA Construction

HOW WE CAN BE PARTNERS FOR GROWTH OF PITTSBURGH'S TECH INDUSTRY

BY DONALD F. SMITH, JR., PH.D

The Pittsburgh region has made tremendous progress in laying down the foundations for the tech industry, but its long-term success is far from guaranteed. Currently, our biggest challenge is getting the tech industry to a sustainable scale, and our success to date has led to a shortage of immediately available space within the city and in proximity to its universities. While many of the tech companies located here are in aggressive growth mode, we can't take their continued growth or presence in our region for granted.

Other regions want to attract these companies and the jobs they create and are competing aggressively for them. If the industry is going to put its roots in Pittsburgh and attract other divisions and projects, property owners, developers and municipality leaders will need to think more like partners and appeal to tech companies' business needs by meeting them where they are and working with them.

In Pittsburgh, many tech companies have spun off from universities. At the outset, these young companies typically have no independent financial history, may generate little or no revenue, and only employ a handful of employees, many of whom are new to the private, for-profit sector. They don't always know what their future holds, how fast they're going to grow or what their space requirements will be. They need a landlord who is going to be flexible with their lease agreement, has a diverse portfolio of properties and can accommodate their changing needs over time.

A company that started out in a small, urban office close to its university sponsor, may a year later receive a government contract that requires a more remote location with large amounts of outdoor space to build test tracks. Expanding tech companies may also need larger space for a growing workforce, larger lab and R&D facilities, space with industrial and light manufacturing capabilities or airspace for testing drones.

Maintaining relationships and gaining deeper knowledge about tech companies and the industries they're a part of will help owners, developers and municipalities recognize future trends and anticipate the market's future needs. For example, a prospective early stage tenant with no track record may need an expensive build out of their space – something a landlord would normally be reluctant to do. But if the landlord knows the industry well and feels confident in their ability to re-lease that space if the original tenant fails or their needs change, that build-out becomes much less of a challenge.

In addition to business needs, we also need to be conscious of the personal preferences of the industry's talented workforce. If we can't offer them the sorts of amenities they desire, we will lose them, and the companies they work for, to other regions that can. To retain good employees, tenants and industries over many years, there needs to be quality of life:

- Gathering places like green spaces and picnic areas
- Skylights to let in natural light
- Showers and other fitness amenities
- Bicycle- and pedestrian-friendly roads and paths
- Easy commutes to work, whether by bike, walking, transit or cars (which require parking).

And in the surrounding community:

- Restaurants/bars
- Parks, pools, libraries
- Good schools
- Diverse and affordable housing options
- Accessible, convenient public transportation

On the governmental front, municipalities need to ask themselves if they are making it harder, slower or more expensive for new commercial real estate products to be developed. Other regions have products available, and fast-growing tech companies can't wait two to three years for the construction of a new building. While the construction permitting process needs to be safe, transparent and predictable, it also needs to be fast. And there needs to be smooth and timely coordination between agencies on planning, zoning and permitting so that builders don't have to contend with what can be a time-consuming, disjointed and contradictory series of regulatory hurdles when seeking approvals. We shouldn't add time and expense with processes that fail to materially add value on points people truly care about. The public input process, while critically important, should be similarly coordinated to avoid delays and protracted negotiations.

It's also crucial that municipalities make infrastructure and transit decisions that support the industry. Autonomous vehicle companies need space for test tracks and the ability to test their products on public streets. Regulation and oversight may be necessary, but it should be sensible and practical, not inordinately difficult to follow.

When all is said and done, young companies in the tech industry want to feel supported and be able to spend their time creating innovations that transform the world, rather than thinking about real estate and jumping through regulatory hoops. If we are to successfully market our region as a long-term home to this burgeoning industry, we – property owners, developers and municipalities alike – need to behave like partners and fuel the fire.

Don Smith is president of the Regional Industrial Development Corporation of Southwestern Pennsylvania. He is the incoming president of the board of directors for NAIOP Pittsburgh.