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JULY/AUGUST 2019

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Union Trust Building's iconic atrium. Photo by Jim Judkis.

05 **PUBLISHER'S NOTE**

07 **REGIONAL MARKET UPDATE**

13 **NATIONAL MARKET UPDATE**

17 **CONSTRUCTION LEADER**

23 **WHAT'S IT COST?**

24 **FEATURE**
Architecture: Changing the Future

39 **PROJECT PROFILE**
Bobby Rahal South Hills Jaguar-Land Rover

47 **FIRM PROFILE**
The Rhodes Group

52 **LEGAL PERSPECTIVE**
Arbitration Versus Litigation: Choosing the Best Option

55 **FINANCIAL PERSPECTIVE**
The Yield Curve Explained (And What it Means for 2020)

60 **MBE/WBE SPOTLIGHT**
Winston Design + Development

63 **TREND TO WATCH**
Mobile Apps Provide Round-the-Clock Engagement

67 **BEST PRACTICE**
Insuring Your Construction Fleet: Best Practices to Mitigate Liability and Manage Your Growing Cost of Risk

71 **INDUSTRY & COMMUNITY NEWS**

77 **AWARDS & CONTRACTS**

81 **FACES & NEW PLACES**

85 **CLOSING OUT**
William Bates, AIA President, American Institute of Architects

PUBLISHER'S NOTE

Forty years ago, right about this time of year, I kicked off my career in the construction industry. It was temporary and unintentional. Having studiously avoided interviewing for jobs during my senior year in college, I fell into an opportunity to work on some Mexican War Street homes being renovated. After about a month of that work, I landed the first of two "next jobs" before getting lucky and being hired as a Dodge reporter at the start of 1981. That opportunity set me on the path I'm still stumbling down today.

Whether it is because of that 40th anniversary or the feature topic, I found myself feeling very nostalgic as I prepared this edition of BreakingGround. Talking and writing about the future of architecture put me to mind of what the practice was like in the early 1980s, when I was making personal calls each month on about 100 firms around Western PA. I did talk to one architect, Dennis Astorino, with whom I had regular contact back in 1981, but the nostalgic feeling came from the realization of how different the architect's role was from those days. And not in a good way.

Over the past 40 years, architects have given away their influence over projects, bit by bit, in the interest of reducing the risk of the profession. By architects I mean the American Institute of Architects, and by the AIA I mean the lawyers at the AIA. I don't know any architects who want to hand over the responsibility for making the decisions an architect is trained to make. I also don't think there's much chance that architects can offload the risks associated with designing a building, regardless of what the contract documents say. When a dispute arises, everybody gets into the pool.

During the research for this edition, however, I got a sense that there was a sea change occurring. I'm not talking about some sort of "road to Damascus" moment for the profession, but rather a sense that architects are recognizing that they have an opportunity – and an obligation – to get back in the driver's seat.

The past decade has been a roller coaster ride for architects. The profession was rocked by the Great Recession. I remember the 2009 AIA Pittsburgh Design Gala, when name tags omitted reference to the tag holders firm, because so many architects were without firms. Three or four of Pittsburgh's biggest firms were sold or reduced in size dramatically during that time. Yet, as this decade ends, the biggest problem facing every firm is finding enough architects to get the work done. It's a feast or famine profession, but the past ten years have been quite extreme.

Maybe it's because the threat of automation is a wake-up call for architecture but I heard more ideas about how architects can reestablish a more prominent role in the industry than I have heard in a while. Actually, what I heard was more talk about how architects can better get their ideas communicated than I've heard in a while. Whether it's the rise of the Millennial architect or some other factor, architects seem to have begun to understand they need to sell too.

I was surprised that there was little or no mention of AI as a threat to architecture from the architects I interviewed, but there were visions of the future of architecture that implicitly justified the need for a thinking architect instead of a machine.

The various visions of architecture in 2030 make for good reading. There was no unifying theme among the ideas but what I took from the conversations was that the architects had come to realize that the profession has to start speaking up. The pace of change, abetted by emerging technology, and the demands of clients has rendered the scholarly white paper obsolete. Coffee table books on the hot design trends in New York or London don't resonate. Like every other constituency in the construction industry, architects need to sell their ideas on the job. That requires a shift in self-perception. It requires real discovery about the client's needs. Most of all, it requires translating the design response to those specific needs.

Selling the profession better doesn't mean there needs to be more business development people out there. It's the project architect or principal who needs to be selling the ideas. It also doesn't mean the end of the line for the architect as artist. It does mean that the architect can't design to his or her vision, client be damned, and expect someone will buy it. I don't know if that was ever true (despite what you hear on the Fallingwater tour), but the past 40 years have proven that it isn't true today.

The construction industry needs good architecture and good architecture needs to be defended. Technology now gives architects the tools to rationally, analytically defend good design. Not all clients will buy good design but all architects need to be selling it.

Jeff Burd

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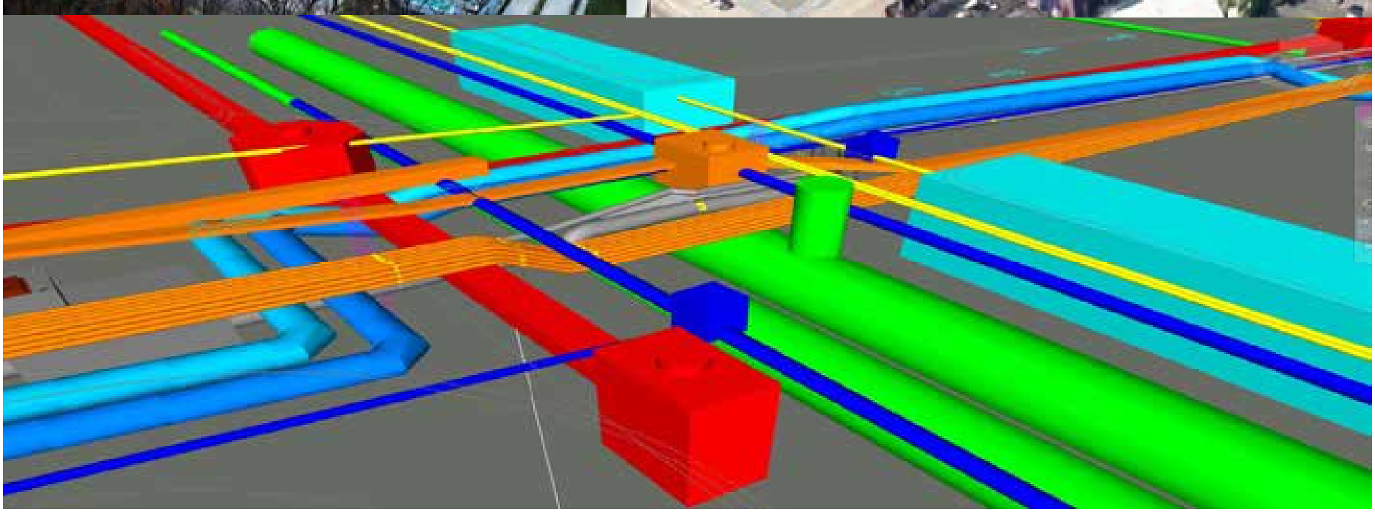

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REGIONAL MARKET UPDATE

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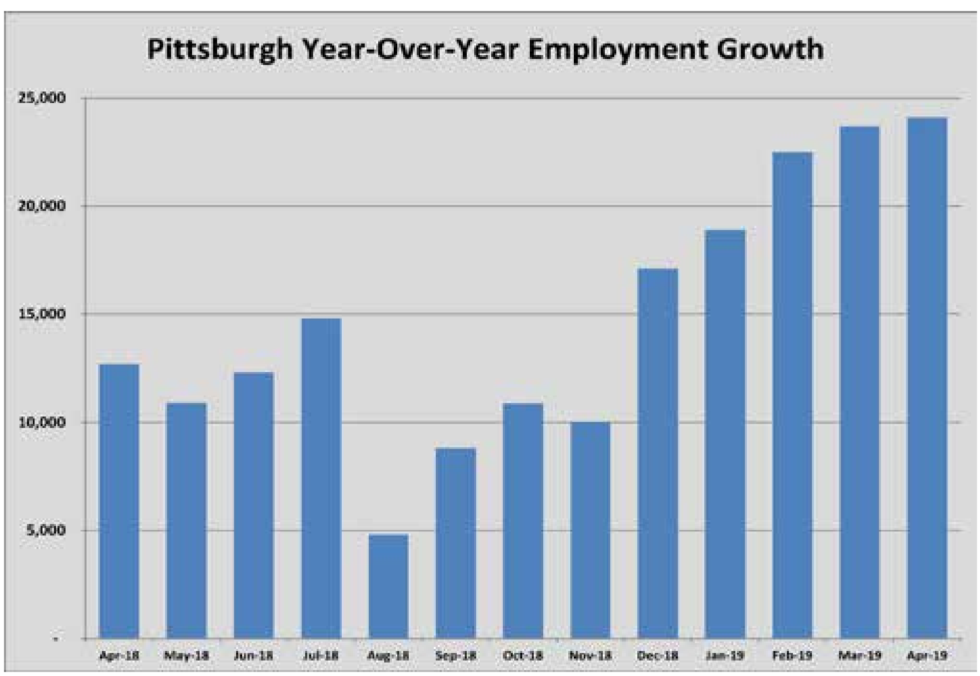
Economic activity in Western PA continued to be strong into mid-year 2019. According to several measures, the strength of economic growth in 2018 is translating into a strong 2019, even after a bumpy start to the year. These cheery readings on the Pittsburgh economy have translated into a strong start to the construction year, although ongoing concerns about costs and labor have slowed progress on some of the region's largest projects.

The Federal Reserve Bank of Cleveland surveys business activity in Western PA as part of its regional Summary of Commentary on Current Economic Conditions, known as the Beige Book. The Beige Book is issued eight times annually. In its most recent survey of Pittsburgh business owners, the Business Conditions Index, the Cleveland Fed found 44 percent of owners expected conditions would be better during the June 19 two-month period, while only 15 percent expected conditions to be worse. The Business Conditions Index was 22, a significant improvement since January, when the index dropped below 10. The number of business owners expecting growth was six points higher than in April.

The Pittsburgh Regional Alliance (PRA) released its annual Business Investment Scorecard on May 23. The Scorecard, which tracks the deals involving new business, expansions and retentions of companies, has been a metric used since 2007 by the Allegheny Conference on Community Development, and 2018 marked the highest number of deals on record.

According to the PRA, there were 340 total deals, virtually all of which involved new or expanded business, in the 10-county Southwestern PA region in 2018. That represented an increase of 31.8 percent over 2017. The activity resulted in the creation of 7,660 new jobs in the region. The deals resulted in $3.8 billion in capital expenditures, of which $1.2 billion was for development. There were 83 development projects in that capital investment, a 69.4 percent increase over 2017. The correlation between this level of business attraction and the continued high level of commercial real estate development is direct, and a look at the main sectors driving the Business Investment Scorecard reveals a similar correlation between regional wins and commercial construction.



Source: PA Department of Labor

The information technology and robotics sector was again the leading deal-making category in 2018, with 89 deals that added 2,886 new jobs. These deals and new jobs showed up in construction projects in places like 3 Crossings, District 15 and Bakery Square 2.0. Manufacturing was a surprising second-most active sector, which resulted in a strong increase of 4,000 jobs and capital expenditures of more than one-quarter billion dollars. The energy sector was third-most active in deals but far and away the largest sector in capital investment at $2 billion.

These three sectors are important to the construction economy for the additional demand they create. Wages in IT, robotics, energy, and manufacturing are significantly higher than other sectors (more than 75 percent higher in IT, robotics and energy). These sectors also have economic multipliers that are strong, producing demand for two-to-three jobs for each job in IT, energy and manufacturing.

The most data on employment in the Pittsburgh Metropolitan Statistical Area (MSA) saw two very upbeat trends that may

Metro Pittsburgh Housing	SFD	SFA	M/F	Total
Jan-June 2018	1,055	333	437	1,825
Jan-June 2019	1,006	305	760	2,071
% change	-4.6%	-8.4%	73.9%	13.5%

New home construction is up 9.6 percent overall, but permits for single-family homes are lower. Source: Pittsburgh Homebuilding Report.

reflect the business attraction and development that is resulting from the new economic drivers in Pittsburgh.

According to the Department of Labor, 24,100 more people were employed in April 2019 than in April 2018. That brought unemployment down to 3.8 percent for the MSA. Within the region, unemployment was lowest in Butler County (3.2) and Allegheny County (3.5). Although the regional unemployment rate is slightly higher than the national rate, the impact on wages has been greater. Workers in the Pittsburgh MSA have seen wages rise 5.4 percent year-over-year. That's 75 percent higher than the rest of the country.

More impressive than the steep decline in year-over-year unemployment was that fact that unemployment dropped at the same time 17,600 workers joined the labor force. That increase of nearly one percent bucked the long-term trend, which has been reversing for the past year. It's also evidence that the Pittsburgh MSA could see a reversal in population decline, despite its unfavorable demographics.

Evidence of the impact of this potential change in demographics has not shown up in the residential construction data through the first half of 2019. A rebound in the number of multi-family units in the development pipeline, and an overall occupancy level at around 95 percent, suggest that the younger cohort of Pittsburgh residents is growing. That observation presumes that the multi-family market is strongly supported by 25-35 year-olds. New construction permits for apartments thus far in 2019 show an increase of 73.9 percent over the first half of 2018, although that represents only 323 more units.

Construction of single-family units remains stuck in a tight range. Based upon five months of permit data, the Pittsburgh Homebuilding Report estimates that new construction of single-family homes will be off by 5.6 percent year-over-year. The decline in permits is roughly equal for both traditional single-family detached homes and townhomes. With sales of existing homes up 4.3 percent through May 31, the reason for the decline in new construction continues to be the limited supply of lots, rather than a decline in demand. Overall new residential construction permits jumped by 13.5 percent.

The most direct connection between these recent upbeat trends in employment and business attraction is in the volume and type of construction taking place in 2019.

For the first six months of the year, more than $3 billion of construction has gotten underway in the metropolitan Pittsburgh market. Tall Timber Group's research and estimate of June's activity puts the volume of nonresidential and commercial construction at $3.34 billion, including the share of construction put in place at the Shell Franklin plant in Beaver County. A closer examination of the data reveals that a higher than normal amount of the construction has been from small-to-medium sized regional business investment, usually a sign that local businesses have grown to the point that physical plant expansion is necessary.

The average new construction/expansion has been 72,900 square feet, an unusually high average that has been driven by two major projects, the Vision and Rehabilitation Hospital at UPMC Mercy and the Amazon fulfillment center. The median size of new construction/expansion has been 13,000 square feet. That figure is about 20 percent larger than the median new construction project in Pittsburgh but, in a year with little or no publicly-funded new construction, the higher median project size suggests that there are more owner-occupied and small speculative projects under construction. That's a reflection of improved sentiment about business conditions in the region.

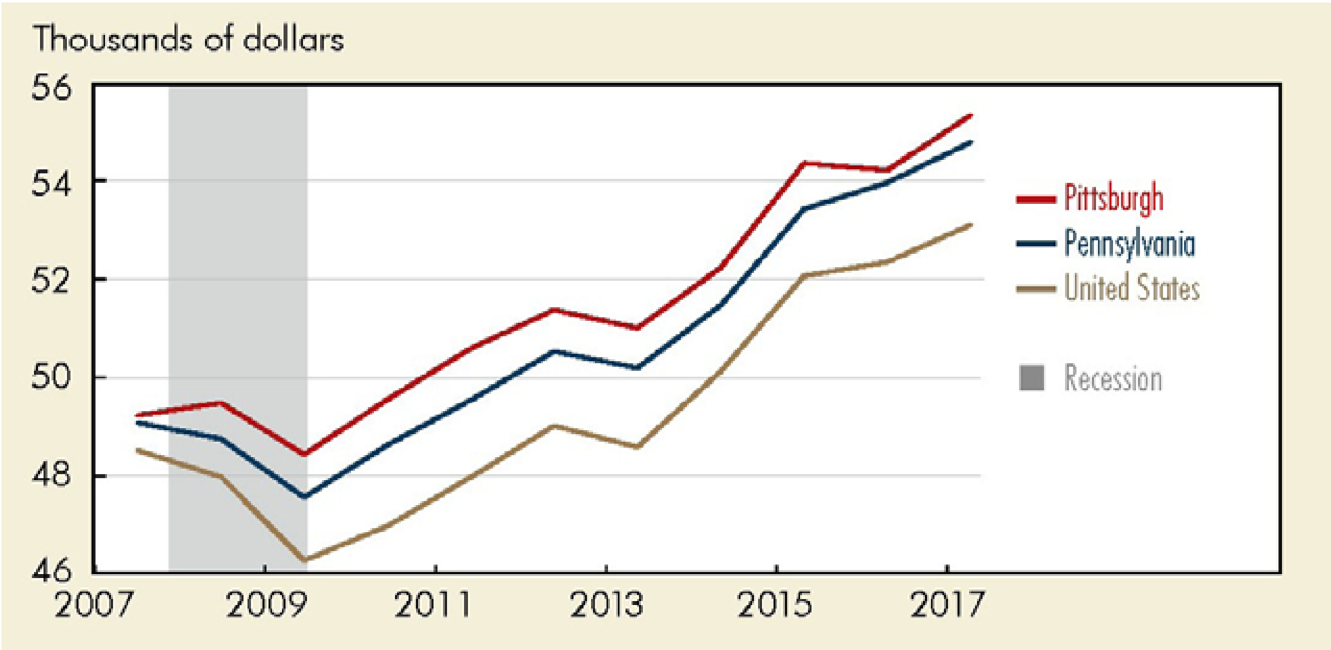
Construction cooled in the latter half of 2018, falling just short of $5 billion in volume for the year. Pessimism about the short-term future of the economy leaked into decision making during the fall and winter months of 2018, which compounded the supply limitations of the labor market. Those supply limitations still exist in 2019, but it's clear that business owners have shaken off concerns about the national and global economy in favor of the brighter outlook for Western PA.

The volume of speculative – or semi-speculative – development in Pittsburgh's hottest neighborhoods is also an indicator of how the successes in attracting IT, robotics, energy, and manufacturing jobs are translating into construction demand.

While the Oakland/Uptown corridor may ultimately become Pittsburgh's "innovation district," it's clear that the Strip District is getting a jump on the market for space that is being used by the innovators now. Between Facebook's absorption of District 15 on Smallman Street and the National Robotics Engineering Center at 40th Street, nearly 5,000 people are employed in research and development for robotics, autonomous vehicles and artificial intelligence. And it's clear from the projects being proposed that developers believe this is the start of something bigger, rather than the peak. There are a handful of projects totaling 1.8 million square feet of new office space in various stages of development in a 16-block stretch of Smallman Street in the Strip.

In order of advancement, the projects are:

- The $47 million renovation of the Produce Terminal and 1600 Smallman Street, being developed by McCaffrey



Above average wage growth in Pittsburgh pushed per capita income above the U.S. and state levels. Source: Bureau of Economic Analysis/ Haver Analytics, Federal Reserve Bank of Cleveland.

Investments and built by PJ Dick, will add roughly 80,000 square feet of office space to the Strip.

- 3 Crossings 2.0 includes plans for 600,000 square feet of office space in the blocks around 28th and 29th Street and AVRR. Rycon Construction has started on The Stacks, the first 110,000 square foot office. Oxford Development expects that at least one (and possibly three) other buildings could be underway by the first of the year.
- The 220,000 square foot District 15 Beta Version has been moving through the city's planning and zoning process. Developer RDC/OrangeStar is planning an August start to construction at 15th and Smallman Street.
- Rugby Realty has successfully appealed a zoning decision that should clear the way for development of two attached buildings totaling 420,000 square feet of office space at 21st and Smallman Street. The developer hopes to land a lead tenant in time to start work in 2019.
- Attorney/developer George Monzell and Norrfuss LLC have made first presentation to the city's planning department for its 252,000 square foot office proposed for 3150 Smallman Street.
- JMC Properties has proposed demolition of the former Wholey's warehouse at 1501 Penn Avenue and construction of a new 300,000 square foot-plus office tower. The New York-based developer is working with Turner Construction on feasibility and searching for a lead tenant.
- North River Co. is creating a master plan for its 250,000 square foot 31st Street Studios and surrounding land. Although not a commercial office property at present, a master plan to create the highest and best use of property in the Strip District – in the heart of Robotics Row – is likely to include office space.

All of these projects are speculative at the moment, but the reality is that only 3 Crossings and District 15 Beta are likely to proceed as purely spec offices initially. This plethora of office development will test the depth (or the maturity) of the demand for space by the innovation sector that is blossoming in Pittsburgh. The projects will be competing with others intending to attract emerging technology companies on Second Avenue, Forbes/Fifth in Oakland, and at Hazelwood Green. Too much development can lead to an overbuilding problem. That is unlikely to happen in Pittsburgh but, if it does, it will be a growth problem rather than a decline problem.

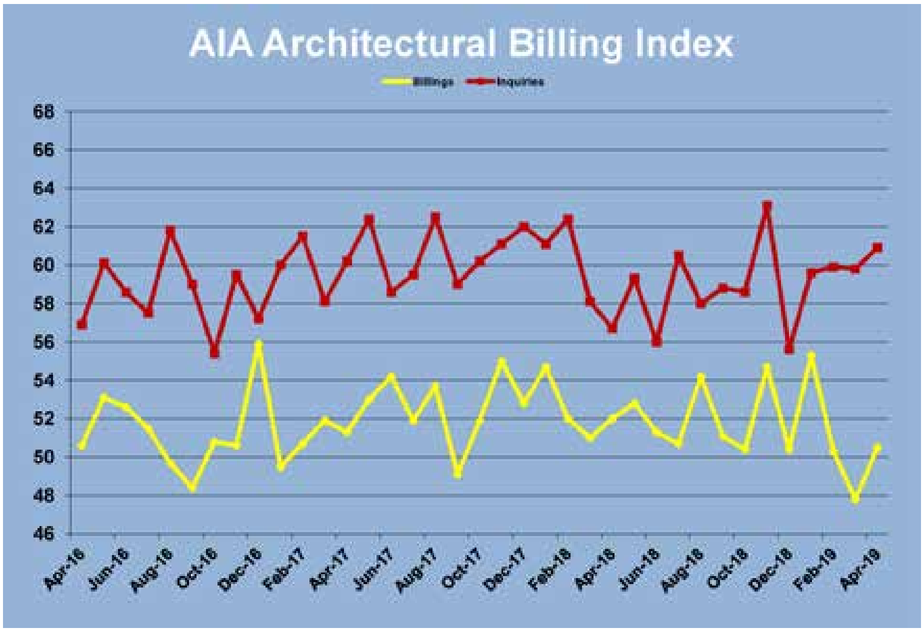
The shared vision of the future Pittsburgh economy that was outlined in the 1993 white paper written by an Allegheny Conference-led committee (and now identified with CMU's President Robert Mehrabian) urged a focus on five growth clusters. Economic growth in the 2020s will be centered almost entirely on those clusters, with the addition of the unforeseen energy sector. Should more than one of these sectors experience heightened growth, and virtually all are poised to do so, it's likely that Pittsburgh's economy will weather the next cyclical downturn even better than the last recession. The challenge for the construction industry during the next 18 months will be to shift to a growth mode. BG

NATIONAL MARKET UPDATE

Construction data near mid-year is showing a slowdown in the pace of growth of nonresidential and residential construction, and a marked increase in highway construction that may be a product of sharply higher prices. The highway market is also experiencing job cancellation. The balance of the construction industry in the U.S. is seeing inflation moderate considerably, while demand is flattening. Overall, the construction industry is reflecting some of the dynamics of the economy in general

The U.S. Census Bureau reported on June 3 that construction spending was at an annual $1.299 billion seasonally adjusted pace in April, matching the total for March. Spending for the first four months was 0.2 percent higher than the first four months of 2018. Among the highlights of the report:

- Public construction spending jumped 4.8 percent for the month and 11.8 percent year-to-date. Highway and street construction spending registered the largest increase, 17.2 percent.
- Private nonresidential spending was 2.6 percent higher than in January-April 2018. Commercial construction decreased by 6.0 percent. Manufacturing construction experienced a 10.7 percent gain. Private office construction spending was 8.0 percent higher.
- Private residential construction spending was off 7.6 percent year-to-date. Single-family homebuilding decreased 7.1 percent in the first four months of the year while spending on multifamily projects increased 7.9 percent. Spending on residential improvements declined by 13.1 percent.



A comprehensive national infrastructure bill continues to be a hostage to the toxic political situation, even though both parties seem to be interested in creating enabling legislation. Aside from the growing demand that results from delaying investment in the nation's highways and bridges, there is an additional risk associated with procrastination: higher construction inflation.

The Federal Highway Administration's National Highway Construction Cost Index (NHCCI) showed price inflation slowing to 1.5 percent during the fourth quarter, following a 5.3 percent increase in the third quarter. The increase in prices for the full year was 12.7 percent, however, the highest annual hike since 2008. Soaring prices were cited by transportation departments in Maine and Minnesota for cancelling some of its larger projects. Both states reported receiving bids on projects over $100 million that were at least 30 percent over budget.

Residential starts in April were 5.7 percent higher than in March but were 2.2 percent lower than in April 2018. The largest residential category, single-family dwellings, was off 4.5 percent year-over-year. Despite growing negative sentiment from lenders and builders about multi-family projects, the category was up 1.4 percent year-over-year. Permits for multi-family units were up 3.8 percent, suggesting that construction of multi-family projects will increase in mid-year.

Ten years into an economic growth cycle, it's not unexpected that construction spending would run out of steam. The trend in hiring is for fewer new jobs (although not for decline in employment), which means that demand for new office space will soften. Home lot inventories remain well below the perceived level of demand. Even though demand for new home construction should continue to build as the cycle slows – with low existing home inventory and rising wages driving new construction – the risk tolerance for developers declines as the potential for growth declines. There is little on the horizon to suggest that the climate for residential development will open the flood gates on lot inventory until at least after 2020.

Flat construction activity reflects the varying data and opinions about the underlying economy. May and June reports on some of the economy's key metrics show that the labor market remains strong – maybe too strong – while economic growth and forward-looking surveys are showing some anxiety. One of the keenest observers of the market data will be the Federal Reserve Bank, which next meets in July to discuss its interest rate policy. With each new report it appears that the Fed is more prepared to consider rolling back the December rate cut that sent investors scrambling.

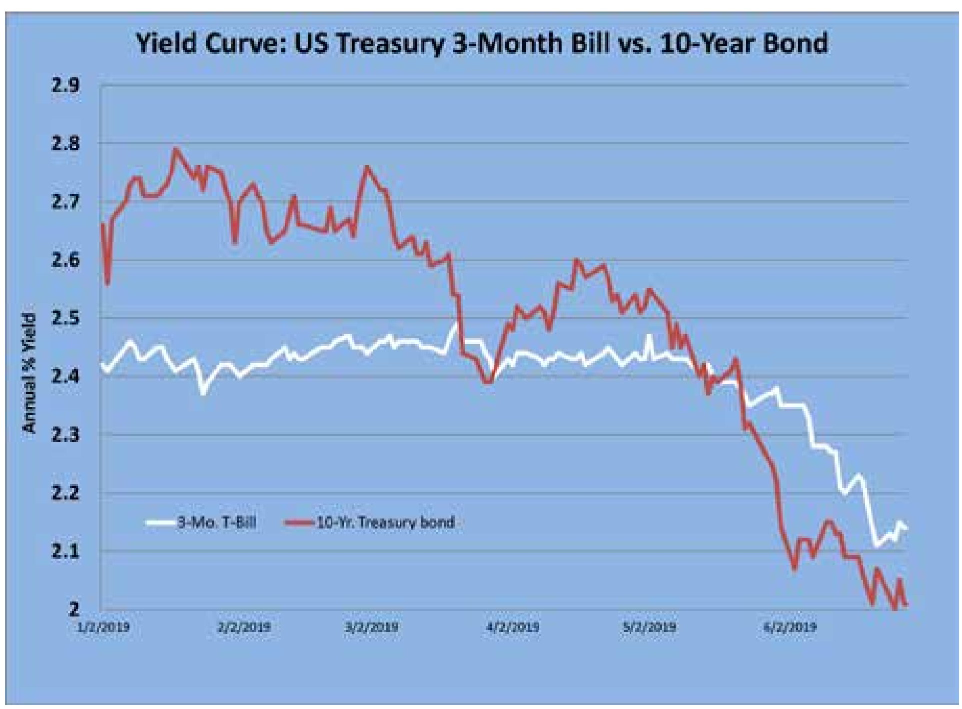
One of the economic metrics that has economists nervous is the yield curve. Because of the bond trading in May and June, long term rates have fallen below the bellwether 3-month Treasury bill. This inverted yield curve has been an accurate predictor of recessions over the past three decades (more on this on page 55). Should the spread between 3-month bills and 10-year bonds remain negative throughout June, the Fed may be moved to cut the Fed Funds rate to try to bring short term rates back into line.

An inverted yield curve is an indicator of potential economic problems. It does not drive the economy. Most of the data still suggests that economic growth will remain well into 2020.

The May jobs report, which the Bureau of Labor Statistics (BLS) made on June 7, was viewed as a further slowdown signal, especially since it contained significant downward revisions for April and March. Employers added 75,000 jobs in May and BLS revised the April and March numbers by 75,000 jobs combined. Two days earlier payroll firm ADP reported that private sector employers had added only 75,000 jobs in May, well below expectations. There is ample evidence that both reports are reflecting tight hiring conditions as much as slowing demand. With unemployment remaining at 3.6 percent, the tight labor supply may have begun to constrain hiring.

May's Job Openings and Labor Turnover Survey (JOLTS) found the number of openings rose again to 7.5 million. That compares to 6.9 million people unemployed. The 1.6 million additional openings compared to applicants are the highest number in a generation. The June 7 BLS report also showed wages continuing to rise. Weekly wages rose again to 3.1 percent higher compared to the previous May.

The second estimate of gross domestic product (GDP) for the first quarter affirmed the initial reading. The May 30 report by the Bureau of Economic Analysis showed GDP growth of 3.1 percent during the first three months of 2019, a slight revision from the earlier estimate of 3.2 percent. Economists still anticipate that the first quarter's output will be the best of the year, with subsequent quarters falling between 2.0 and 2.5 percent. In the details of the May 30 report, no significant change was made to the components of the GDP, which included an unusually large surge in inventories. The buildup, likely to get ahead of anticipated additional tariffs, will weigh on second quarter GDP growth, as firms that built inventory will not need to do so in the coming months.



Yields on long-term bonds have plunged during the late spring, creating pressure on the Federal Reserve Bank to cut rates in July to head off a downturn in 2020.

Strong GDP growth was but one economic measure that showed the U.S. economy as being much more resilient than was feared when 2019 began. The negative reaction of the stock markets to the Federal Reserve Bank's 25 basis point rate hike in December, followed by a shutdown of the federal government, pushed many economists and business owners towards a more pessimistic outlook for the next 12-to-24 months. That negative sentiment changed quickly by February. Data on consumer sentiment, business investment, inflation, and GDP since then have reinforced the renewed optimism of the spring.

One interesting byproduct of the reversal in outlook for the economy has been the pessimism expressed in a number of recent surveys on market segments that were done during the early part of the year. These reports are universally ones built on the basis of surveys of participants – usually association members – that take several months to assemble and interpret.

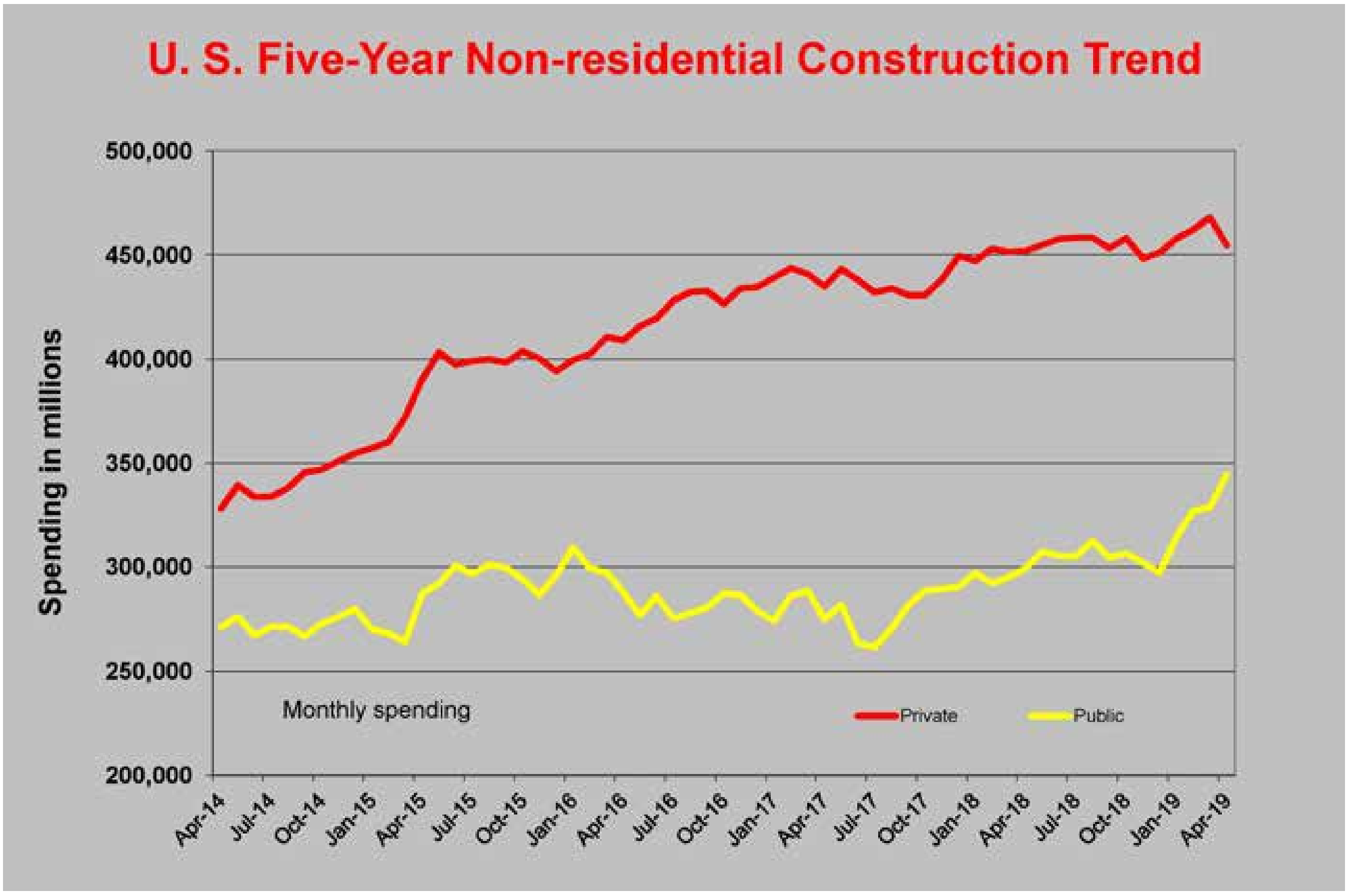
The American Institute of Architects surveys its member firms each month about whether or not their billings increased or decreased. A binary survey, the Architectural Billings Index (ABI) attempts to ferret out trends by going deeper into the types of projects and geography of the respondents. The results of the ABI survey are timely and require less analysis. The ABI is a good look at what is on the boards and will be on the streets in nine months or so. The same survey also attempts to look deeper at other trends in the industry. This research requires more lead time. The May 22 report on April's billings found sentiments that were somewhat at odds with the surveys main results.

Slightly more than half the architectural firms responded that their billings had increased in April compared to March (50.5 percent). More than 60 percent said the level of inquiries from clients was higher (a level which has been constant throughout 2019). Yet 52 percent "indicated that nervousness about the economic outlook was affecting their clients…" Since the survey question about client sentiment was asked about activity in the first quarter, it's difficult to weigh how the change in overall business sentiment has impacted decision making since then.

As an indicator of future work, the ABI is valuable, since work on the boards tends to take nine months to a year to become construction. As an economic indicator, however, the ABI has a blind spot. Clients can push design work forward, even as dark clouds form over the economy. That, in turn, raises billings. Economic conditions can be deteriorating as billings are on the rise. The 2007-2008 recession is a great example. In April 2007, the billings index was at 52.7. By April 2008, ABI had fallen to 45 and would hit bottom at 33 in January 2009. Heeding the decline in April 2008 may have saved many investors billions in losses later that year; however, the signals the April prior, when the technical recession was about to begin, were still positive.

Likewise, The National Association of Homebuilders (NAHB) reported on May 23 that its builder and developer members were more concerned about the multi-family market than at any time since 2010. The NAHB's Multifamily Market Survey looks at production and vacancy surveys to create an index score, which stood seven points lower at 40 in the first quarter. Many of these responses would have come in the aftermath of the government shutdown, when feelings about the economy's direction were more negative. Against this reduced level of confidence, multi-family housing starts and permits have held steady, and appear to be on a trajectory that is slightly higher than in 2018.

Sentiment does tend to lead the data, whether the trend is upward or downward. As more businesses try to read the tea leaves about when this record-breaking business cycle will end, there will be greater scrutiny about consumer and business sentiment. Given the nature of events at the end of 2018 and in January 2019, it would seem to be prudent to await the results of the second and third quarters before making forecasts about the direction of 2020. The risk of acting too soon on too little information could be a slowdown of self-fulfilling prophecy. BG



The gap between private nonresidential construction and public spending narrowed more sharply in April, falling to $110 million. Source: U.S. Census Bureau.

MESSAGE FROM JEFF NOBERS

Executive Director, Builders Guild of Western Pennsylvania

It's been an exceptionally busy and productive 2019 thus far for the Builders Guild and our member organizations. I'd like to especially thank our Board members and the JATC staffs and apprentice coordinators for their unwavering support of initiatives that have helped to drive a more positive image of our industry, as well as more and more qualified candidates to the trades and industry.

Among our significant accomplishments this year were the staging of a hugely successful career exploration event, assuming the management of and revising the Introduction to the Construction Trades Pre-Apprentice Program, being recognized for our efforts in minority recruitment, and helping our regional CTC's and CTE's to stabilize and in many cases grow enrollment into programs relative to our industry.

In this issue please make sure to read about updates to the industry drug testing policy in the wake of the rapidly growing use of CBD products and the potential of these products to cause a "fail" drug screen, and educational materials available to inform our workforce about this issue as well as opioid awareness.

As always, I welcome your input and ideas. Please feel free to email jnobers@buildersguild.org or call 412-977-1263.

Best Regards,

Jeff

WESTERN PENNSYLVANIA CONSTRUCTION INDUSTRY DRUG FREE PARTNERSHIP

CBD Update

By David Daquelente, Executive Director, Ironworkers Employers Association

The Western Pennsylvania Construction Industry Drug Free Partnership (Partnership) exists so that the union construction industry in our region can work towards all the advantages of a drug-free project. Under the direction of a joint labor-management committee, the Partnership strives to meet its goal by establishing program framework that facilitates a ready-to-work pool of drug-free tradespeople. The Partnership meets regularly to review industry changes and identify aspects of the substance abuse testing program that should be adjusted to meet and exceed the safety, quality, and productivity goals of our customers and industry stakeholders; to that end we want to share with you a recent update regarding Cannabidiol (CBD).

CBD comes from the Cannabis plant and is just one of the many compounds historically utilized from this versatile plant. THC, tetrahydrocannabinol, which is the most commonly known compound of the cannabis plant and has significantly more psychoactive content is the metabolite tested for in workplace drug testing panels when people reference Marijuana. Most CBD is produced from Hemp and have little to no THC and current research has shown beneficial results for conditions ranging from Alzheimer's to pain relief and inflammation.

When Congress passed the most recent Farm Bill in December 2018, it removed Hemp from the Controlled Substance Act (CSA) and created a legal route for the production of hemp products such as hemp-based CBD which is a major reason you have noticed the massive spike in marketing for CBD products in the last six months. We see CBD products available everywhere from Sheetz to GNC and in local supermarkets such as Giant Eagle.

So why did the Partnership recently update the policy language to include a warning related to the use of CBD and why should employers and union tradespeople get educated on the facts of CBD?

There is currently no regulation around the production of CBD and as such there is no oversight to guarantee the quantity of THC in any product labeled "CBD". On May 31, 2019, the FDA held its first hearing on the topic and also made it clear that companies could not market CBD with claims it would, "prevent, diagnose, treat, or cure serious diseases, such as cancer." So, while CBD is not the metabolite tested for in the marijuana panel of a drug test, the CBD that you decide to use may have THC in the product. Quest Diagnostics' Dr. Barry Sample recently noted that, "If the product contains only CBD and has had the THC removed, then an individual being tested would not be expected to test positive for marijuana or marijuana metabolite."

Although it is highly unlikely that CBD product use would result in a positive THC test on a workplace drug test, the Partnership program will not accept the use of CBD products as a valid excuse for a failed drug test. Just as the changes to medically referred marijuana use became legal in Pennsylvania, without changes at the Federal level moving Marijuana (THC) out of the Schedule I classification in the CSA, employers and specifically, construction employers who employ safety sensitive positions, will retain their right to include Marijuana (THC) in their workplace substance abuse testing panels.

If you would like a full copy of the most recent policy with this change please email Jeff Nobers at the Builders Guild. jnobers@buildersguild.org

BUILD ON EVENT DRAWS MORE THAN 6,000 TO CONVENTION CENTER


Gov. Tom Wolf addresses the Build On conference on March 29.

On March 29 and 30 the Builders Guild along with several corporate partner/sponsors hosted a career exploration event held at the David Lawrence Convention Center called Build On...Careers in the Construction and Allied Industries. More than 4,500 7th through 12th graders attended on Friday March 29, and some 1,800 from the general public attended on Saturday March 30.

Fifteen of our construction trade unions and several contractor associations participated with interactive and hands-on activities so that students, parents and others could get more of an understanding as to the areas of expertise, skill and career opportunities of each trade. The event received exceptional reviews from school districts, politicians, sponsor partners and most importantly our trades and contractor associations. Planning is underway for next year's event, scheduled for November 2020.

Special thanks to our sponsoring partners who also provided hands on experiences; U.S. Steel, CNX Resource Group, Peoples, Duquesne Light Company, Marcellus Shale Coalition, Shell Chemicals Pennsylvania and ATI Flat Rolled Products.

BUILDERS GUILD RECOGNIZED FOR MINORITY RECRUITMENT EFFORTS

A little over two years ago the Guild working with several community and minority organizations and leaders sought to build better working relationships and trust in recruiting minorities and other underserved persons into our industry.

While it's fair to say that continued work lies ahead, we've made solid strides as evidenced by the Builders Guild being recognized as the Human Rights Partner of the Year for 2019 by the NAACP Pittsburgh Chapter for our on-going and consistent efforts in educating and recruiting minorities into the industry.

Executive Director Jeff Nobers accepted the award at the organizations Human Rights Dinner on May 7. The Guild and industry were lauded by NAACP Pittsburgh Chapter President Richard Stewart and others for our…" willingness, openness and honesty in working with the NAACP and other organizations."

naacp logo

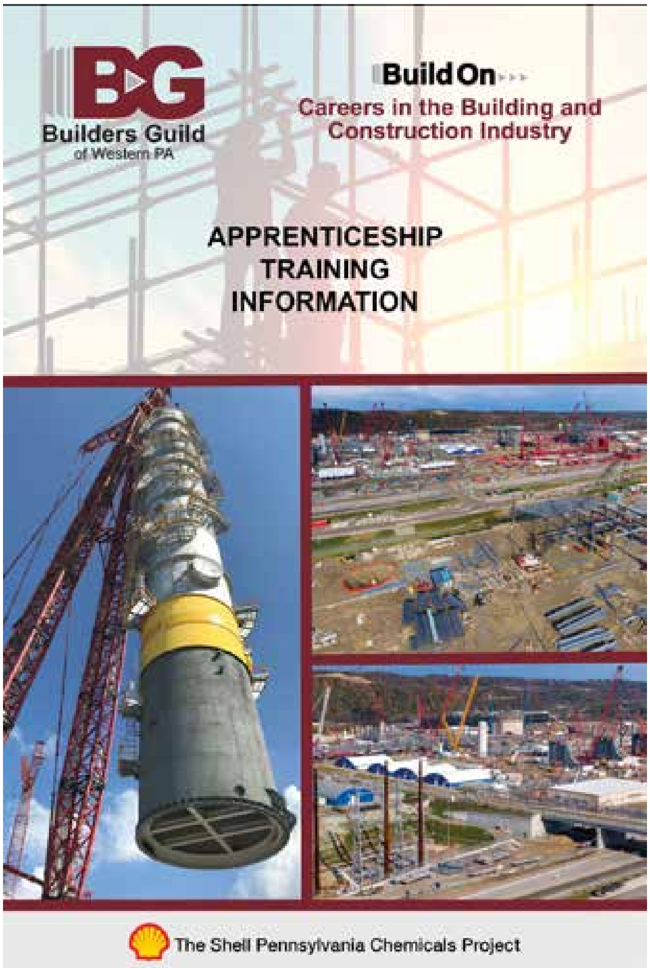
CTC AND CTE ENROLLMENT SHOWING GROWTH

Among the Builders Guild's education and recruiting efforts is working with the region's CTC and CTE directors and staff. We do this through attending career events for their students, attending the Western CTE Directors meetings and actively promoting their curriculum at events and in the media.

While many factors come into play our efforts combined with those of the JATC's and school staffs have helped to stem what had been a yearly overall decline of students into construction related programs and have shown small, but steady growth over the past three years.

Of the 18 schools surveyed there were 1,424 students in 2016/17, 1,458 students in 2018/19 and with enrollment still open for three months there are 1,574 students registered for this academic year. It's anticipated this number will hit the 1,650 range before the fall term begins and of special note the schools report noticeable increase in the number of sophomores entering the programs.

In addition to direct involvement the Builders Guild supplies newly designed apprentice information booklets and career track posters for their use with students, parents and feeder school districts.



A MODEL PRE-APPRENTICESHIP PROGRAM

The Builders Guild working with Partner4Work launched Introduction to the Construction Trades in January of this year. This Pre-Apprenticeship Program replaced one formerly offered by the Energy Innovation Center Institute.

Ron Sapp and Chaquita Barnett continue to run the program under the direction of the Builders Guild and an advisory Board made up primarily of Builders Guild Board members. The course is taught to the North American Building Trades (NABTU) MC3 curriculum and includes multiple visits to JATC sites for hands on instruction and exploration of the trades.

The Builders Guild has been able to assure more reliable funding through Partner4Work, and in working with our members unions, JATC's and contractors now offer a "guaranteed" placement with a trade or as a direct hire with a contractor. "The Builders Guild is one of only a handful of organizations that offer the 'guaranteed' placement nationally making it a model program," said Tom Kriger, Education Director for NABTU.

Our first cohort of 21 graduated in mid-April and all were placed within 30 days of graduation. Our most recent cohort of 23 graduated June 14 with 15 placed immediately, with eight others pending tests/interviews. Two more cohorts are planned this year beginning in early July and late September. Though any qualified candidate can be accepted the focus of the program is recruiting minorities and females into the trades and industry. Through two cohorts we have achieved 90 percent minority/female recruitment.

EXECUTIVE BOARD:

- Philip Ameris, Sr., President/Business Manager, Laborers' District Council of Western Pennsylvania
- Gregory Bernarding, Business Manager/Financial Secretary, Iron Workers Local Union #3
- Kenneth J. Broadbent, Business Manager, Steamfitters Local Union #449
- Joseph Casilli, Executive Vice President/Owner, Casper Colosimo and Sons, Inc., Constructors Association of Western Pennsylvania
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- James T. Strother, Jr., CAE, Executive Director, Sheet Metal and Air Conditioning Contractors National Association, Western Pennsylvania Chapter

WHAT'S IT **COST?**

Data from April and May reinforce two construction cost trends, one of which may be disrupted by politics again. Since late fall 2018, the upward pricing pressure created by last year's tariffs has receded. According to the Bureau of Labor Statistics (BLS), the producer price index (PPI) for inputs to construction was 2.8 percent higher in April 2019 than 12 months earlier. That was in line with the inflation since October. Although still higher than consumer inflation or overall PPI, the inflation for construction had been as high as 9.6 percent higher year-over-year in spring of 2019. The May 10 announcement by the Trump Administration that it was increasing tariffs again on China is likely to have an inflationary effect on construction materials heading into the summer. A jump in PPI for final demand construction to 5.3 percent in May could be the first indication of the tariff's impact.

The other trend taking hold is the increase in prices charged by contractors. As input costs rose during 2018, bid prices and PPI for specific specialties and building types remained at the level of overall inflation. In recent months the PPI for nonresidential building construction has risen to between five and seven percent, depending on the type of structure. Likewise, PPIs for subcontractors has moved progressively higher. May's data saw highs of 7.8 percent year-over-year for concrete contractors, with inflation for plumbers and electricians at 5.9 percent and 5.3 percent respectively.

Another BLS report suggests that the increase in contractor pricing is the result of lower productivity, rather than higher wages. A mid-May report on first quarter wage growth in the construction industry found that overall compensation rose 0.7 percent from the previous quarter, and 2.9 percent over the previous four quarters. That's right in line with the overall wage growth for U.S. workers. With wages rising at roughly the same rate as in 2018, the hike in contractor prices is the result of lower production – which is an expected result of a worker shortage – and higher profit margins to adjust to the market risks.

May's report on inflation showed fewer big swings in pricing for building materials, with any significant changes to the downside. Energy prices fell significantly year-over year, with #2 diesel fuel declining 6.2 percent. The decline in global demand resulted in a precipitous decline in the industrial metals categories. Compared to May 2019, prices for iron and steel scrap fell 21.5 percent; stainless and alloy steel scrap was down 16.5 percent; copper base scrap was off 10.3 percent. Prices for fabricated or finished metals also slumped, falling between 2.7 percent for fabricated structural steel and 5.0 percent for aluminum mill shapes. Copper and brass mill shapes were down 3.7 percent. Lumber and plywood showed a steep decline, with the slowing housing and export markets pressuring prices downward 14.0 percent. Gypsum prices also suffered from similar market conditions, although the continued strong demand from commercial projects held the decline to 6.3 percent.

The categories that saw increases were primarily those related to infrastructure work. Asphalt prices jumped 14.1 percent at the plant. Asphalt paving mixtures rose 4.8 percent. Concrete products were up 2.3 percent, although precast concrete products increased 5.4 percent.

Government data is confirming what private organizations are finding. Construction consultancy Rider Levett Bucknall's bid price index rose 4.48 percent during the first quarter and 5.66 percent compared to the April 2018 pricing. ConstructConnect's Alex Carrick did an analysis of inflation for public, private, and five major categories of construction and found that prices had risen at least ten percent for all compared to three years ago. Turner Construction's published Turner Building Cost Index found prices rose 1.34 percent from January to April and 5.85 percent over the last four quarters. Construction inflation at double the rate of the overall PPI will be the rule in 2019. BG

PERCENTAGE CHANGES IN COSTS	May 2019 compared to		
	1 mo.	3 mo.	1 yr.
Consumer, Producer & Construction Prices			
Consumer price index (CPI-U)	0.2	1.3	1.8
Producer price index (PPI) for final demand	0.1	1.0	1.8
PPI for final demand construction	0.0	1.8	5.3
Costs by Construction Types/Subcontractors			
New warehouse construction	(0.3)	2.4	5.0
New school construction	0.4	2.5	6.6
New office construction	(0.1)	1.6	4.6
New industrial building construction	0.0	2.0	6.9
New health care building construction	(0.5)	0.3	4.2
Concrete contractors, nonresidential	(0.1)	2.5	7.8
Roofing contractors, nonresidential	(0.1)	0.7	2.1
Electrical contractors, nonresidential	(0.1)	2.3	5.3
Plumbing contractors, nonresidential	0.8	2.6	5.9
Construction wages and benefits	N/A	0.8	2.9
Architectural services	(1.1)	(0.7)	(0.6)
Costs for Specific Construction Inputs			
#2 diesel fuel	(2.6)	8.2	(6.2)
Asphalt paving mixtures and blocks	0.2	(3.4)	4.8
Cement	(0.6)	1.4	2.5
Concrete products	0.2	1.6	2.3
Brick and structural clay tile	(0.1)	0.0	1.1
Plastic construction products	(0.3)	(0.2)	1.3
Flat glass	0.1	(0.3)	0.7
Gypsum products	(2.6)	(2.8)	(6.3)
Lumber and plywood	(0.9)	(0.9)	(14.0)
Architectural coatings	2.4	1.4	8.1
Steel mill products	(0.6)	(2.2)	1.1
Copper and brass mill shapes	(1.1)	1.7	(3.7)
Aluminum mill shapes	(0.9)	(0.9)	(5.0)
Fabricated structural metal	2.5	1.3	2.6
Iron and steel scrap	(8.3)	(5.9)	(21.5)

Source Bureau of Labor Statistics, Updated June 12, 2019
Compiled by Ken Simonson, AGC Chief Economist

ARCHIT

Photo by Desmone Architects.

ECTURE
CHANGING THE FUTURE

There is no segment of the construction industry that has not undergone dramatic change over the past 30 years. A barrage of market disruptions has made it impossible to do business as usual for more than a handful of years at a time. The factors - runaway inflation, double digit interest rates, regulation of financial institutions, overseas financial investment, and, of course, advancing technology - have all created pressures to maintain a profitable business.

Architects have struggled at least as mightily as any other profession to adapt to this constantly changing environment. With a reputation for being artists rather than businesspersons (whether fair or not), architecture has seen the value of its time diminished by technology and a conscious professional aversion to risk.

There is no tried and true business model for architecture. Sole practitioners and huge multinational firms have an equal chance of being highly profitable or shutting their doors. What appears to be the common denominator among profitable firms is an understanding of the strengths and weaknesses of the firm and a willingness to market the company to optimize those strengths and weaknesses. Architecture is still a profession that eschews many common business practices. The practice spends well below corporate norms for marketing and advertising. Selling has traditionally been frowned upon and, even though that time-worn norm has eroded, far fewer firms employ professional salespeople or develop an integrated sales approach.

Many of the trappings of architecture have changed but the practice itself has not been altered to the degree that medicine or manufacturing or retailing has. It's likely that will not continue much longer. Design has been identified as one of the major business activities that will be disrupted by artificial intelligence. Architecture, and construction in general, is a profession that collects and aggregates large amounts of information repetitively, generally in an inefficient manner. It is ripe for disruption by technology that processes and makes sense of mountains of seemingly unrelated data.

There is also a more basic disruption beginning for architecture. Like the rest of the American workplace, architecture is watching its largest demographic cohort roll into retirement. The danger for architecture is that this demographic disruption comes on the heels of a business disruption caused by the Great Recession. Simply put, there is a hole in the architectural profession that exists between Baby Boomers and Millennials.

Architecture was not easier 50 years ago, but the practice was simpler. With a drafting table and a set of Sweet's Catalogs (and clients of course), you were in business. Technology has made it easier to serve clients than it was in 1969, but the complexity of the industry can undo those technological advantages in no time. And, though much has changed since 1969, it's likely that there will be even more disruption in the coming decade. Whether a sole practitioner or multinational design firm, 2030 will belong to those who make change work for them. It will belong to those who can make the case for architecture.

The Change in Faces

Of the two major forces that have changed the makeup of the profession, the Great Recession was the unexpected one. The jarring nature of the financial crisis accelerated the impact that followed. As the stock market fell by more than half, clients put building plans on ice. That led to dramatic layoffs for architectural firms. Like after other recessions, there was recovery and re-hiring. Unlike any recent recessions, however, the downturn had a ripple effect that is still visceral in 2019.

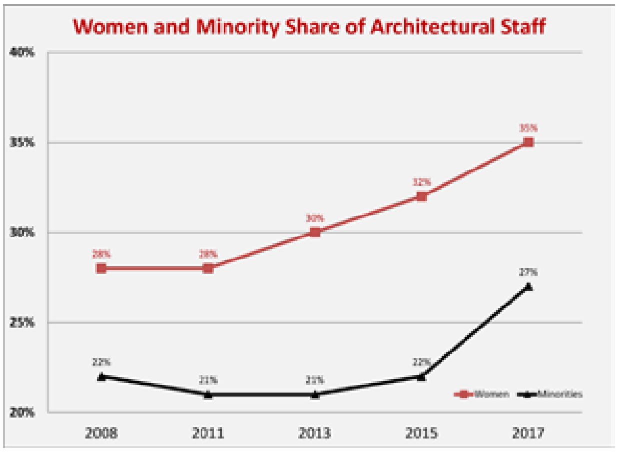
Estimates of the number of architects left unemployed by the Great Recession run as high as 30 percent. In 2009 alone, the number of architects employed fell from 230,000 to 189,000. By 2011, architecture was the career with the highest unemployment rate for graduates, with 13.9 percent of architecture grads unable to find employment in the profession. The grim market realities created a migration away from the practice of architecture. Even experienced registered architects were weary of the roller coaster ride of employment and sought out opportunities with contractors, developers and as facility department managers. Many left the industry altogether.

While the profession has rebounded since then, the recovery took most of ten years and demographics have driven the face of change as much as demand. Like most careers, architecture was full of Baby Boomers. At the time the recession began, in late 2007 or 2008, Boomers were at the peak or late peak of their career path. In 2019, the retirement outflow of the older generation has created opportunities for younger architects to find work and take on lots of responsibility. The current level of employment for architects is still below the 2006 peak but, as demand for services grows, the transition of generations will create the need for more architects.

Number of Employees	Share of Firms	Share of Billings	2015 Share of Billings	2005 Share of Billings
1 - 9	75.8%	13.7%	15.4%	16.5%
10 - 49	18.0%	30.3%	33.3%	31.7%
50 or more	6.3%	56.0%	51.3%	51.9%

Three out of four AIA member firms have less than ten employees and receive a declining share of the billings compared to 2005. Source: AIA Member Survey Report 2018.

According to the Bureau of Labor Statistics (BLS), there are 128,800 architects employed in the practice as of April 12, 2019. The median annual salary for architects was $79,380 as of May 2018 (the last time surveyed by



Although the share of minority and women architects is expected to rise significantly by 2025, participation remained largely unchanged until 2017. Source: AIA Member Survey Report 2018.

BLS). Despite the demographic challenges, which should increase demand for design services and decrease the supply of architects, BLS forecasts that job growth in architecture will only be four percent from 2016 to 2026, a much slower rate than the growth rate of all occupations. At the same time, BLS suggests that competition for architectural jobs will increase, keeping wage growth lower. If this seems like conflicting data, it's because it is. And the American Institute of Architect's (AIA) outlook for the profession differs from BLS.

"Architecture is unique in that there is a pretty rigid path to get into the profession. You need to go through a professionally accredited architecture program. There are a fixed number of those, and the class size doesn't very much," says Dr. Kermit Baker, chief economist for the AIA. "The U.S. turns out about 6,500 graduates every year from accredited architectural programs. Those numbers don't vary much year to year."

Except for the depth of the recession, when more architects than usual chose graduate school over unemployment, the number of new architects entering the field has remained steady. That should mean the increased competition will be for architects, not jobs. Baker points out that while demand for architects fluctuates with the market conditions, the length of the education and registration cycle means that it is difficult to adjust the supply of architects.

"The question is, are there jobs for all of the graduates out there? That depends on the situation," says Baker. "Sometimes the profession needs more than 6,500 to accommodate growth and sometimes it needs fewer. [But] it is a bit different from construction, for example, where you could be attracted from a different industry and be working on the job site within a month or two. For architecture you can't turn the workforce around that quickly. It's a five-year professional bachelor's or a four-year nonprofessional bachelor's with a three-year master's degree. It's hard to turn that ship quickly."

As the age demographics of architecture are following the same trends as the overall workplace, the ethnic and gender makeup of the profession are only catching up to the demographic composition of the general population. Participation by women and minorities has risen significantly over the past few years and is expected to continue rising sharply into the middle of the next decade. There was, however, much ground to make up, and women are gaining more quickly than minorities.

African Americans made up 1.89 percent of the profession in 2015, compared to 1.57 percent in 2006. Women comprised a much larger share and grew from 17.3 percent in 2006 to 21.7 percent in 2015. The share of minority architects was 27 percent, significantly higher than the share of African Americans. Not surprisingly, the share of architects under the age of 35 was considerably higher across the U.S., at 42 percent, than in Western PA. There is evidence the tide is turning in Pittsburgh.

"There is a sudden awareness. People are taking more notice that the younger group of architects is larger and more visible," says Michelle Fanzo, executive director of AIA Pittsburgh. "Part of that is, like every other group in Pittsburgh, architects are getting older and retiring at a faster rate."

The data supports Fanzo's anecdotal observation. AIA Pittsburgh's membership total is 589 and more than 16 percent are under the age of 35. That share is rising and the share of members who are registered or graduate architects under the age of 35 is even higher and more diverse. Of those architects under 35, 48 percent are female, and 11 percent are African American.

One anomaly of the profession trending younger in Pittsburgh is that the shift is more precipitous than in other regions. Fanzo recounts that many of her member firms are struggling to deal with the hole in their staffs: the registered architect with 15 years' experience who can manage projects. Pittsburgh's Diaspora of the 1990s has resulted in far fewer 40-to-55-year olds, that group that would be taking the reins from the Baby Boomers while the Millennials cut their teeth.

"I hear that firms are having difficulty finding staff but, when you scratch below the surface, it's generally the architect with 10 to 12 years' experience. It's someone who is fully trained and could handle a significant task or a design project without supervision," notes Baker. "There is this demographic hole out there that is a residue of the recession. That may be partially true but, on the other hand, I have to say that in my 25 years of working for the AIA it seems that that sort of architect slot is always difficult to fill.

"There is always a lot of demand for that kind of architect. Younger architects aren't in as much a demand because they can't handle tasks independently. There is also less demand for principals or partners because there are always people willing to step into that leadership role. It's the staff architect that seems to be the tricky one to fill."

Nathan St. Germain

Mike McDonnell

AIA Pittsburgh is attempting to help firms deal with this shortage through a program called The Leadership Institute, which is funded by the AIA Pittsburgh Foundation. The Leadership Institute has a nine-month curriculum that focuses on leadership skills rather than architectural, in order to expedite the development of younger architects who would need years of life's experience to encounter the leadership opportunities. Nearly 60 architects have graduated from The Leadership Institute within the past two years. The hope is that those graduates will be in a better position to take on additional responsibilities at an earlier age. Kermit Baker notes that the future leaders may find they have mentors longer than they expect.

"I went through the exercise of projecting just how many architects we would need over the next decade and a majority of the need - perhaps 75 percent - is from retiring architects," Baker explains. "Architects are traditional white-collar workers and 65 does not seem to be too sacred for a retirement age, particularly if you are running a firm or small practice. It's an easier occupation for working into your seventies."

The Change in Substance

If history has taught us anything, it is that the seventy-year-old architect won't be leading the profession into the future. There is a burgeoning group of leaders, Millennial architects, whose hands are reaching for the wheel. The role they inherit is much different from the role the Baby Boomer architect inherited.

The changing role of the architect is well-chronicled. Once the master builder in the role of Frank Lloyd Wright (a role that was never a reality for most architects), architects have seen their influence over the project diminish since the middle of the 20th Century. Owners are more active participants in their projects and have more construction information than before. Market conditions have squeezed fees and the time to devote to a project. Technology has improved productivity, but the shorter design cycle means fewer issues have the chance to be fully examined prior to construction. Many of the responsibilities that were the architect's in the past have more logically fallen to the contractor.

Much of this erosion in control is a byproduct of an intentional shift in risk by the profession at large. The AIA issues standard contract documents, which still have the largest share of the construction market. In each of the past three or four reiterations of the A101 agreement between owner and contractor, the AIA has made changes that shift the risk of performance to other parties. Architects haven't sought these shifts, but the AIA's lawyers have. The result has been less risk, less responsibility and less reward.

The construction industry has adapted. New forms of agreement have evolved. Delivery methods other than design-bid-build, which puts the architect at the center of the process, have grown in usage to the point where alternative methods outnumber traditional models. (News of this has been slow to reach Pittsburgh.) The genie is out of the bottle.

Looking into the next decade, architects seem to be thinking about being agents of change instead of victims.

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Julie Polletta

Nathan St. Germain, the founder and principal of Studio St. Germain in Sewickley, fits the profile of an agent of change. The Rhode Island native moved to Pittsburgh in 2012 after practicing in New York. St. Germain is a registered architect, a Certified Passive House Consultant, and a RESET Accredited Professional. He's passionate about designing sustainable buildings. He's also something of a critic of how the profession has gone about advocating for sustainability.

"The most impactful change in the next decade will be in how our buildings actually perform, from both an energy standpoint and occupant health and wellness standpoint," St. Germain predicts. "I think the capability is already there, but it is a smaller piece of the market. The hardest part about sustainability is selling it. It's not the science. The science has been there for a long time and that technology is continuing to improve. What isn't being done is making a business case."

St. Germain points out that studies on office, healthcare and educational environments are numerous and voluminous. The correlations between natural light and indoor air quality and the resultant improvements in productivity, healing, improved learning, absenteeism, turnover, and many other metrics defy refute. St. Germain says the architects must take the next step of translating those study results to their client's needs.

"The results sound great to us but to a business owner what does it mean in dollars when productivity is increased?" he asks. "We have been applying financial modeling outside the energy savings. There are quantifiable benefits to making the decision to have a building that performs better. My job is to teach that to my client. That is where I see the future."

A track record of two decades of sustainably-designed buildings will give clients the justification they need to make life-cycle cost decisions, believes Dennis Astorino, CEO and senior principal at DLA+ Architecture and Interior Design.

"I think over the next ten years architects will get increasingly involved in designing buildings that use zero energy and produce more energy than they use. I think fossil fuels will have gone by the wayside," predicts Astorino. "It will have a dramatic impact on how we do things. Many clients don't understand that the cost of operating a building over the course of its lifetime, even 25 years, is much greater than the first cost. Being able to show clients the return up front, because we'll have 20 years of history, will help them make good choices during the design."

"It's not technology that has been the biggest change, it's the data. The most impactful change that has occurred in my career is the role that analytics play in driving decisions," says Mike McDonnell, partner at IKM Inc. "Analytics are driving decisions about program, design features, and what projects get go/no go."

McDonnell, like St. Germain and Astorino, believes that access to the data on what justifies his clients' decisions will make IKM better-equipped to meet its clients' needs. IKM serves a number of large institutional clients that

Bea Spolidoro

have demonstrated to the firm how important a role analytics play in their decision-making. He feels that it's simply a matter of time and saturation before data-driven decisions are the norm for all enterprises. Rather than waiting to judge the proper saturation point, McDonnell says IKM is taking the lead and trying to anticipate the data that will drive the solution.

"As we begin to see artificial intelligence affect the world, there is the expectation that we'll continue to build around data-driven solutions," predicts McDonnell. "I look at forward-thinking firms that are doing very complicated projects and they are letting their past work inform their current work. Using data and analytics gives the design team authority again. It allows us to tell a client why a design detail is included and why it works as the best solution."

McDonnell used an example of how data on the movement of the sun and wind over the building can determine specific fenestration solutions. How the design solution appears aesthetically can be supported by how the solution best performs. He says that IKM is looking to hire a person in the role of "advocate engineer" to use analytics to challenge engineering assumptions internally and with IKM's consultants. The intention is to find an engineer that will advocate for the best environment, mindful of the impact that all the building's systems have on the human occupants.

"We have made the fundamental shift towards human-centered design. In part, it's driven by lean process, but mostly the shift is driven by the desire to improve the environment for human experience," McDonnell says.

"The paradigm that we want to shift in the public consciousness is not how you are going to take care the building, but how the building is taking care of you," says St. Germain. "The key piece to all of it is how is the building performs against those goals and targets after occupancy. So you went to LEED Gold or LEED Platinum; how does the building owner actually know that it is performing as designed?"

Julie Polletta is thinking about artificial intelligence too. The principal at RM Creative says the leadership at her firm has been talking and reading a lot about AI and other disruptive technologies. What they have concluded is that technology is going to impact architecture because of how it impacts their clients.

"Technology is going to impact our clients. We need to be thinking about how," Polletta says. "It's not just advancements of current technologies, but fundamental shifts like virtual presence, AI, and Internet of Things for healthcare or education or professional services. How will our clients' needs change? In a virtual world, what does the physical space that our clients inhabit look like? And how well will we remain relevant and of value to them?"

Dan Delisio

Bea Spolidoro, associate at Rothschild Doyno Collaborative, is an architect who does see technology as impacting the future of the practice. From her perspective, the technology will work that serves human interaction best.

"We are already seeing the big impact of tablets, apps and software that allow architects to do more work from the jobsite and on the road. Construction management systems already allow architects to be more digital, and even faster in collaborating with their construction teams," Spolidoro says. "Over the next ten years, the collaboration between contractors, architects, and subs will increase and the number of tech flaws will be reduced (we hope!). This collaboration will also include communication and delivery of documents to any governmental entity that regulates construction. No more double copies of drawings that would only take shelf space for decades, getting dusty in some city archive."

Spolidoro is skeptical that advanced technology, like virtual or augmented reality, will be developed to the point where it can be used to produce designs for architects. On the other hand she thinks virtual reality could be very useful today to help clients or real estate brokers understand the ramifications of their decisions. Visualizing spaces, colors, lighting, or even textures would greatly reduce many of the kinds of problems that slow down progress in the field. Spolidoro also believes that adopting more technology will help architecture cope with human problems that other, more progressive, industries are solving now.

"Being more digital will also allow for more flexibility in the workplace, with people being able to work from anywhere," she says. "This can help working mothers, older workers, or people with disabilities."

Like Spolidoro, Dennis Astorino sees virtual reality as the next step in helping architects relate design expectations to clients. For all of the changes in the practice during his 40-year career, Astorino says the biggest impact has come from being able to communicate what he is visualizing to his clients.

"The way we practice in terms of having clients understand our vision correctly has changed," he says. "Some clients are very sophisticated and understand abstract concepts, but many are not. The way technology allows you to show space as it's going to be is something that is incredible. Over the course of my career we've come from pencil and pen, trying to draw the vision, to this day when it's designed on a computer and you can accurately show a client how the space will be. I think managing client's expectations has changed drastically."

"Beyond the clients, I think it helps the architects themselves," Astorino continues. "As much as we think we can see it in our mind, it's not always the way the client sees it. With virtual reality we can get a design dead on."

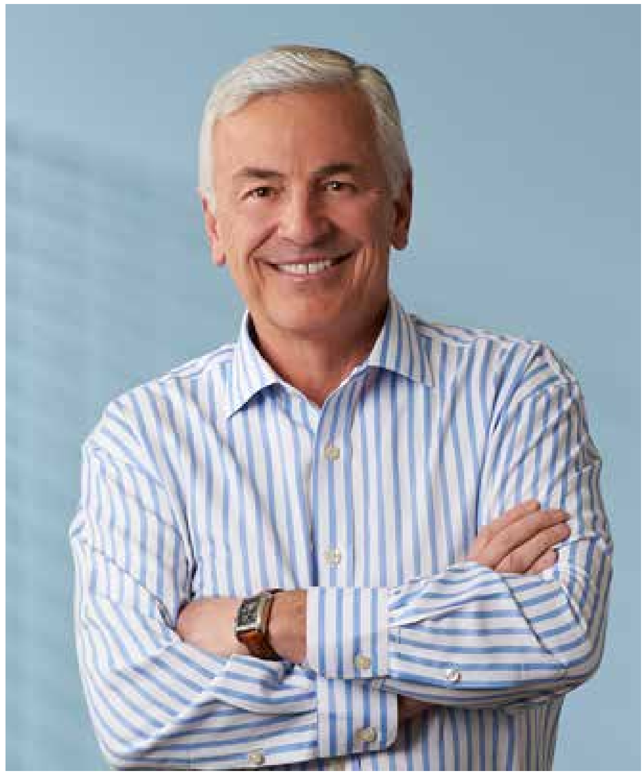
One of the challenges facing the profession, or the universities serving the profession, is educating the next generation of architects so that they are prepared to work effectively in the changing workplace. Architectural students will have access to emerging technologies, and can become very adept at using them. The challenge is ensuring those technical skills are relevant to the profession. Dan Delisio, principal and owner of NEXT Architecture, has seen some changes in the level of skills preparation that worry him. At a time when hiring and promoting architects with less experience is becoming a strategy to combat the workforce shortage, Delisio says that the professionals need to be more active with educators.

"We've been thinking more lately about what the colleges and universities are teaching as it relates to the day-to-day aspects of the business," Delisio says. "How does what they are teaching apply to the day-to-day practice of architecture."

Delisio relates that one of the universities from which NEXT has had success hiring graduate architects has begun teaching its students rendering software in place of computer-aided design.

"They are not teaching them AutoCAD or Revit. They are teaching them rendering and expecting them to learn how to draw on the job," he explains. "We have to teach them how to draw, what to draw, how to detail."

"What that indicates to me is that we need to spend more time with the colleges and universities. None of us



Dennis Astorino

have a lot of free time but we have to be willing to invest the time with the universities so the graduates know what the industry expects from them," he concludes.

Reaching out to guide an educational institution, as Delisio suggests, is an act of agency that could influence the architects entering the profession. It implies that architects can effect change rather than react to it. Construction will change significantly by 2030, whether architects have agency in the changes or not.

It's worth noting that most of the changes that these architects foresee ultimately benefit their clients and, by extension, society. Whether the changes are delivered by improved technology or an improved approach, the improvements will eventually be adopted. Architects, as the early-stage planner and thinker, are in a position to advocate for better ways of designing and building. The future of the profession, it would seem, will depend upon how well they advocate for change. The future of the profession may turn on how well the next generation of architects can convince their clients to embrace the future.

"Our clients don't do anything without knowing all the facts. As they get better at gathering information, they also expect us to," says McDonnell. "We have young people at our firm who are interested in collecting that data. It's our job as leaders to decide how and when to use it. The thing that will impact the future of architecture is resilience to the changes that are going to come. The ability to be nimble will come from the ability to understand the data." BG

Photo by Roy Engelbrecht.

PROJECT PROFILE

BOBBY RAHAL SOUTH HILLS JAGUAR-LAND ROVER

In April, Bobby Rahal Automotive Group opened its newest location, a 44,000 square foot South Hills Jaguar-Land Rover store on Route 19 in North Strabane Township, Washington County. The Jaguar-Land Rover store marked the fifth project in a partnership between Rahal, Dick Building Company and architect Dean Hess, a relationship that goes back more than 20 years. Dick Building's president, Alex Dick, remarks that the relationship has been satisfying because of the approach Bobby Rahal Automotive takes to construction.

"They want a high-quality building because they sell high-quality vehicles," he says. "They realize there is a premium to the product they build. They work hard to minimize that premium, of course, but at the end of the day they know they are getting better value."

The South Hills Jaguar-Land Rover store is located on a busy stretch of Route 19 that is getting more development each year. As a car dealership, it could hardly be located better. As a construction site, however, the topography and geology of Northern Washington County left much to be desired. Because of the difficult site and ambitious opening date goal, the owner chose to begin working with Dick Building as construction manager during the design and site work phase of the project, rather than competitively bidding the work.

That delivery method is not uncommon for Rahal, according to Dean Hess, who began working with Bobby Rahal Automotive when he was a project architect as Ross Schonder Architects.

"If Rahal has a good experience with someone, they tend to call you back. That's why I'm there. That's why Dan Dean is there," he says.

"Our relationship with Dick Building started in 1997, when they built the Mercedes Benz store for us," says Rick Speicher, vice president of operations for Bobby Rahal of BMW South Hills and South Hills Jaguar-Land Rover. "They had to build it under tremendous time constraint because Mercedes Benz had a very aggressive schedule in mind. We thought they were the ones who could get it done, and get it done right."

Hess notes that some of his consultants have also worked on Bobby Rahal Automotive projects since the very beginning in Pittsburgh, a situation that helps move projects along efficiently. Hess explains that during the design development phase, having the shared institutional knowledge of what the client expects and what the brands demand is a big advantage. As architect of record, Dean Hess adapts the design done by the brand architect – in this case SDA Architects from Irvine, CA – to the location, interpreting schematic design intent to meet local codes and site conditions. In the case of South Hills Jaguar-Land

Rover, the adaptation was more involved.

"This store was detailed like an art museum," Hess jokes. "It's very clean and simple, with nice graphics on the walls. They want the cars to pop. It was very different from other jobs I'd done for Rahal because of the level of detail demanded by Jaguar-Land Rover. From my perspective, it was less of a design challenge and more of an execution challenge. We had to make sure that everyone had every detail correct."

"Jaguar-Land Rover had just come out with new, tightly-controlled design intent documents," continues Hess. "It has 126 pages of documents. To give you perspective, I'm working on a Lexus dealership for Rahal in eastern Pennsylvania right now. It has a one page design intent document. The Jaguar-Land Rover documents literally tell what type of flower is to be at the welcome desk."

The level of detail on the interior is extraordinary, especially since it is not necessarily apparent to the untrained eye. The intention of the interior design is understated luxury. All of the offices have clear glass walls and doors but there are no aluminum frames or mullions. The flooring is 24 inch square ceramic tile that is laid out precisely on a grid that carries throughout the interior, including matching the lines for the exterior joints and returns. That made establishing a control point for the flooring especially difficult. To achieve the desired look in the showroom, the ceilings were all drywall in which LED tube lighting was set. The reveal for the lighting was designed to be one-eighth of an inch so that it appears seamless, but the drywall ceiling had to be cut and finished perfectly to receive the running LED fixtures.

The new prototype is larger, with a layout that reflects how car makers are adapting to the experience today's buyer expects. Before the team could begin putting together this new concept for selling and servicing cars, there was a challenging site to be tamed.

Rahal originally intended to build the site in the mid-1990s when it acquired the property just north of Weavertown Road. The financial crisis and a subsequent change to Pennsylvania's Department of Conservation and Natural Resources (DCNR) regulations brought those plans to a stall.

"We procured the property when we were looking to expand our brands in this location, but then the 2008-2009 economic downturn happened and we put it on hold until the

Customer waiting areas resemble hotel lobbies. Photo by Roy Engelbrecht.

climate changed, both economically and in terms of the brand," says Speicher. "We were fortunate that the manufacturer of the automobiles agreed with us."

As the luxury car market was returning to health in the mid-2010s, Bobby Rahal Automotive began to revisit its plans for the South Hills Jaguar-Land Rover store. By this time, however, DCNR had introduced its buffer initiative for conserving high-quality streams, one of which runs through the South Hills Jaguar-Land Rover property. The buffer initiative aims to have grasses, shrubs and trees planted in a zone, known as a riparian buffer, which creates a transition from land to stream and eases runoff problems. This new wrinkle would impact the Rahal site.

"Our initial challenge was that a high-quality stream runs through the property and, with the new environmental regulations, we couldn't encroach within 150 yards of it. That left the site unfeasible for the design we had," says Speicher. "The regulation allows you to develop your property within the proximity of the stream if you build a riparian buffer elsewhere on the stream, or another high-quality stream. I had to find a property owner nearby that had a high-quality stream and make a deal to do a riparian buffer there."

Site work got underway in November 2017. Preparing the pads for the new dealership (and a future building site) included removing 100,000 cubic yards of dirt and filling 96,000 cubic yards to level the site. The nearly equal cut and fill operation excavated a maximum depth of 32 feet and filled 28 feet. The plan was to start construction on the building once weather permitted in February 2018. The remainder of the site work would run in parallel to the building construction, with an opening in spring 2019. Mother Nature, and some unforeseen conditions, made a Plan B necessary almost immediately.

"Pittsburgh experienced the second-highest rainfall in its history during the time we were doing construction, so that was a tremendous challenge to keep the project moving," recalls Speicher.

"There were more than 50 weather delays during the site construction. Most of that was rain," recalls Dean. "If you talk to any contractor working new construction during last year and a half, you'll hear the same story. We lost so much time that we had to figure out how to do this site work a little differently. We ended up eliminating some of the concrete curbing and replaced it with asphalt because we were running out of time before the end of the season this winter. We got binder in very late in the year and worked on the concrete pieces during the winter. As soon as the asphalt plants opened this spring, we were able to get the top course paved."

Early in the excavation, the contractor discovered rock. The rock was discovered in the area that would eventually become the employee parking lot. The site engineer, PVE, worked through several

Photo by Roy Engelbrecht.

alternatives to removing the rock. But the cost of additional retaining walls and relocating major portions of the site was equal or greater than the cost of removing the rock. Dean says that the owner simply accepted the unforeseen conditions and paid to have it removed, but a month was lost on the schedule.

To meet the schedule, Dick Building adjusted the site work construction. Work began on the building in April 2018, while work on stormwater detention, underground utilities, temporary and permanent access roads overlapped the building.

The building is masonry and structural steel, with custom aluminum composite panels (ACM) on the exterior of the showroom portion of the building, and corrugated metal panels on the service department. There are two showrooms, one each for Jaguar and Land Rover. The remainder of the building contains shared services for the customers of both brands. The service and parts departments, accounting, financing, and customer hospitality areas are designed to support both Jaguar and Land Rover customers. The architectural focal point of the building is the 80-foot-long continuous glass storefront. Everything about the glazing system presented a challenge.

"The whole system was coming from outside the country. The lead time was enormous," says Dean. "If for any reason something came wrong or damaged, the lead time didn't allow for any fix. The problem with getting the glass made in the United States was the size of the glass. The manufacturing limitations for glass in the U.S. meant that the height and width we needed couldn't be made here. They came up with a U.S. manufacturer that could meet the lead time, but they couldn't make the dimensions that were specified."

Dick Building first suggested lowering the slope of the ACM panel but Rahal's team didn't want to give up on the look of the elevation that was designed for Jaguar-Land Rover. The solution was to use two pieces of glass per panel, with a horizontal butt joint that aligned with the joints in the ACM panels with which the glass interfaces. Although the joint is essentially invisible, any joint the eye observed would line up.

"Our glass contractor, Nemes, purchased a remote contol robot to install the glass," says Dean. "The machine uses suction to lift the glass off the truck and moves it into place by remote control. The glass is so heavy but, instead of having five or six people there lifting and trying to set the glass, it took two guys. No one got hurt or strained their back. They just made the connections and moved on to the next piece of glass."

There is a two-story parts department

that is organized so that the first level contains the smaller, more commonly-used parts, while the second floor is where the larger components and tires are stored. The organization of the storage sparked the need for a custom solution that Dan Dean says he's never seen before.

"They have a tire drop that is a one-off. Dean Hess designed it. I don't know if they saw it at another dealership or just created it," Dean explains. "It's a steel structure that connects the first and second floors. Whenever there is an order for tires, the person pulling the tires puts them in the drop one tire at a time and they fall to the first floor. Forest Steel fabricated the structure and there are 16-gauge aluminum infill panels so no one can get inside it. It's about as solid a structure as you can imagine. The door is only as tall as one tire on the second floor and it has the same door height on the first floor. The tires roll out one at a time. No one has to lift a tire or roll tires down stairs. It works like a charm."

Dick Building acted as general contractor for the building and as construction manager for Rahal for the owner-furnished items, like vehicle lifts, alignment racks, tool boxes, car wash equipment, and the branded elements, like casework and custom artwork. The unique of the store had the potential for enormous conflict, as the fixed price of a construction contract conflicted with the fluid development of the Jaguar-Land Rover store.

"You talk about a well-informed owner, the Rahal team was very hands-on throughout the entire design, permit, subcontractor award, and construction process," recalls Dean.

Photo by Roy Engelbrecht.

"If we didn't make it in the car business, we could probably make it in the construction business," laughs Speicher. "We have learned enough over the years to be dangerous!"

Dean says that the Rahal team was up front about the $12 million cost of the Jaguar-Land Rover store, noting that it would be the most expensive dealership they had developed. Because it was a new branding concept, there were also going to be changes to their usual methods throughout the project. That turned out to be prophetic, as Dean notes that 95 percent of the changes were driven by the owner. Such a turn of events could be disastrous for a schedule, especially since the submittal process included two architects and a manufacturer that was six hours ahead of local time. Instead, the team managed the process smoothly.

"The Rahal people are very experienced, almost like a clerk of the works. They are a very educated client," agrees Hess, who had his hands full reconciling the field solutions with the Jaguar-Land Rover specifications and metric dimensions. Hess credits the communication style of Dan Dean for streamlining the submittal process.

"The level of detail was so important that I suggested to Dan that the subcontractor in the field call me directly and I would email the response to Dan. He was okay with that. The people in the field appreciated that because they could get an answer on a dimension or whatever in a few minutes, instead of waiting a day or so," explains Hess. "Dan is unique as a project manager in that he was a carpenter. Whenever there was a question or a change, Dan already had everything sketched out."

"Bobby Rahal Automotive has a good relationship with Jaguar-Land Rover," notes Alex Dick. "When they came up with a solution, they would pick up the phone and explain what they thought was a better way. They would get a verbal approval before we submitted the change. There was an expedited review process through Jaguar-Land Rover."

The expedited process relied heavily on complete communication and trust, and it worked. Bobby Rahal South Hills Jaguar-Land Rover opened on schedule, delivering a high-end facility that is meant to match an extraordinary shopping experience. The design and construction team has seen that, as a luxury car dealer, Bobby Rahal Automotive Group makes decisions about quality that are consistent with the brands it represents.

"The demand for quality and price performance was unlike most we've dealt with," says Dick. "In a good way, they push us to do what we do best, which is delivering high-quality complex projects."

"Over the years we have built trust working with Dick Building Company," says Speicher. "They know what we want. We know how they like to work. You get a comfort factor with them. You know your message is getting through all the way to the subcontractors. They know that quality is paramount." BG

PROJECT TEAM

Dick Building Company .... General Contractor
Bobby Rahal Automotive Group .... Owner
Dean E. Hess AIA .... Architect
Linkrist Construction .... Drywall/Interiors
Century Steel Erectors .... Steel Erection
T. D. Patrinos Painting & Contracting .... Painting
Tom Brown Construction .... Waterproofing
Burns & Scalo Roofing .... Roofing
Schindler Elevator .... Elevator
Redstone Flooring LLC .... Carpet/Flooring
J. P. Phillips Inc. .... Ceramic Tile
Nemes Glass Corporation .... Glazing
DW Plumbing .... Plumbing
J. A. Sauer Heating & Air-Conditioning Co. ...... HVAC
McGervey Electric Inc. .... Electrical
Mongiovi Fire Protection .... Fire Protection

The Rhodes Group's directors (from left) Shawn Modor, Andrew Rhodes, Leroy Trimbath, and Mike Birmingham. Missing are Marc Johnson, Peter Cosmai, and Laura Miller.

FIRM PROFILE

THE RHODES GROUP

On February 8, 2019, Pittsburgh-based construction consulting firm The Rhodes Group celebrated the 20th anniversary of its incorporation. Co-founder and president, Andrew Rhodes shared what he believes is the recipe for success with the company's employees that day.

"Our growth and success have far exceeded my expectations," Rhodes said. "I attribute our success to the team-oriented structure of the company, and the passion our team members share for providing outstanding services. The collaborative environment we have built here is truly the backbone of The Rhodes Group. It gives our clients assurance that no matter which one of our experts and consultants they work with, they can expect consistent, high-quality work product and credible analysis."

When Andrew Rhodes and his former partner left Peterson Worldwide in 1999, it was with more modest goals. Working for a global consultancy meant lots of resources, but there were also limitations that a corporate environment imposed.

"There was a thought that we would have more flexibility by not being in the framework of a corporation and that flexibility would allow us to better serve the needs of our clients." Rhodes recalls. "I learned early on that I really enjoyed developing the relationships with the clients, which stemmed from a genuine desire to help them. I thought that being on our own there would be a better opportunity to grow and focus on those relationships. Rather than having to worry about business generation and development I wanted to focus on those long-term relationships."

At the start, The Rhodes Group provided claims consulting and expert witness services for companies involved in claims and disputes. To this day that claims consulting and expert witness practice remains the leading line of business, making up as much as 50 to 60 percent of The Rhodes Group's revenues. Out of that main line of business has grown other related services. In addition to the claims consulting and expert witness services, The Rhodes Group also does Critical Path Method (CPM) scheduling, 3-D modeling and something it calls Project Alignment Services.

The latter is a byproduct of the firm's 20 years of experiences, applied early in the project's life cycle to help clients avoid claims or better prepare for the process.

"With Project Alignment we're helping a client navigate through the project," says Mike Birmingham, executive director. "It's not

(From left) Laura Arrigo, Donald Kaplan, Nathan McNeil (Houston), and Christopher Sammon are the four project executives for The Rhodes Group.

really risk management in the traditional sense, but helping a client prepare for what could come should the inherent schedule and cost risks become a reality. When you get to the dispute stage you have the record of documents that were created throughout the project. We've seen many instances where there were clear issues on projects that weren't documented properly. Contractors didn't substantiate their claims throughout the project. You can't go back and create those documents or change how you responded to issues."

The Rhodes Group works in conjunction with the project and legal teams to develop strategies to address potential issues and provides real-time analysis of potential claims so that their clients can make informed decisions.

Andrew Rhodes believes the collective experience of The Rhodes Group's professionals makes the Project Alignment service more valuable as the years go on. He also believes the industry has become more attuned to the value that such experience brings to clients before there are problems on a project.

"I think there is still potential for continued growth by taking the experience and perspective we gain in the context of litigation and employing it much earlier in the project in an effort to help them identify and better manage the risk," Rhodes says. "Some of these claims are so big and complicated that I think the biggest stakeholders have become a little more open to the idea of employing people like us earlier. That wasn't the case ten years ago."

Claims and construction consulting has grown as a profession as the industry has become more complex and more litigious. Consultants are a combination of accountant, estimator, project manager, and scheduler. Like lawyers, construction consultants – especially claims consultants – are usually brought in after the time that their advice could be most effective. Construction, with hundreds of vendors and contractors on straightforward projects, is delivered along a timeline – the critical path – that is at daily risk of being disrupted. When the schedule deviates, those in the critical path have to adjust. Often, that adjustment involves claims for compensation. That's where The Rhodes Group comes in.

"The process starts with a stage one analysis of the validity of the claim so that the client understands the strengths and weaknesses of their case should it proceed to mediation or litigation," explains Birmingham. This work is usually performed in conjunction with the legal team.

"A complete claim will have support from contemporaneous documents. The claim should be based upon actual cost support and the contract terms. In the final analysis, the claim has to be based on the documents and facts available and be credible."

Credibility is important for The Rhodes Group. It is one of the foundational elements of a consultant's reputation, which is a major source of repeat clients. Yet, standing firm on its credibility can mean telling a client that its claim isn't viable, and that a Rhodes Group expert can't stand in front of a mediator or judge and advocate on behalf of the client. That's a tough conversation to have with a client but, if a consultant wants their opinions to be accepted in future disputes, the consultant's credibility and independence are critical. Birmingham says the firm accepts that standing firm on presenting a credible claim may mean declining business. As a consultant, the balancing act between advising and enabling is a constant battle.

"We have sophisticated clients who do all the right things, but don't have the perspective with respect to how their actions may play out in the dispute process," says Birmingham. "They maintain documentation and communication during the job and they keep cost records or cost accounting systems, but not to the level that we would like to see. That can cause problems when we're trying to present a claim because we can't get to the necessary level of detail. That's probably our biggest day-to-day challenge."

The growth of The Rhodes Group has been fairly steady for its 20 years, with a couple of its biggest years coming since 2015. The company has seen three periods of exceptional growth, each of which can be tied to strategic decisions made to facilitate growth.

The Rhodes Group benefitted in its early years from the Plan B building boom, most specifically from the PNC Park project, for which the firm consulted on claims resolution. Following that growth spurt, The Rhodes Group grew more slowly throughout the mid-2000s, making strategic investments in 3D modeling moving into the oil and gas market, and expanding internationally in 2009. The latter decision helped boost revenues ten percent for several years while the global economy was sputtering.

To better serve the oil and gas business, The Rhodes Group opened an office in Houston in 2014. That decision opened the flood gates, leading to the addition of people to staff and nearly doubling revenue in 2015. Revenues jumped again by 40 percent from 2017 to 2018. Hiring during the past two years brought the staffing to 42 people, including seven in Houston.

In addition to Rhodes and Birmingham, the firm is managed by an executive committee that includes Shawn Modar, Leroy Trimbath and Chris Jones. There are four additional directors: Peter Cosmai, Laura Miller Marc Johnson and Sarah Shaffer.

The firm credits the its recent growth to the addition of directors, solidifying a strong team structure led by skilled project executives, and expanding the number of associates capable of expert witness testimony and leading other service areas. That has helped them take on the increased work, much of which came from repeat customers.

The uptick in 2018 had its drawbacks. "For the first time since I've been here we actually declined work," says Sarah Shaffer, director of business development. "That was painful. There were some very good opportunities, but we could not have performed at the level that we want. Our reputation is that we do solid, credible work. We want every engagement to end with the client saying we were outstanding. If we can't do that, it's better to decline."

"More recently the biggest challenge has been recruiting and hiring," observes Birmingham. "Within our industry there is a relatively small field and when we try to match them to our culture there's even fewer people that would qualify."

The deadline driven nature of the consulting business means that the staff of The Rhodes Group is working extra hours. There is much information on each project and the nature of the end product, which may be a Rhodes Group testifier on a witness stand, has to be right. It means that the culture of the firm has to be collaborative, positive and accepting of the workload.

"The term that we've all adopted here to describe it is grit," says Birmingham. "It takes that to get through the hours and the stress. Sometimes we have to tell our clients things they don't want to hear, and you have to push through that too."

"We work long hours and long days and, at the same time, we have to maintain a positive attitude in the office," says Shaffer. "We find time to take breaks and recognize our staff. There's something about getting through the hard part to get to the good part."

One byproduct of the firm's growth has

been engagements by some of the largest contractors in the world. Engineering, procurement and construction (EPC) firms manage multi-billion projects that have the kind of complexity and built-in claims management process that is a natural fit for consultants like The Rhodes Group. That expertise has taken The Rhodes Group around the planet. Experts are currently working with five of the largest contractors in Canada. The Rhodes Group also has projects in Australia and Chile. Following clients across the country or around the world is part of the business after 20 years of growing; however, all that expansion hasn't pulled the firm from its Pittsburgh roots.

"We do projects internationally but we are still based in Pittsburgh and are still committed to the industry and the community here," says Shaffer. "We still do have local clients from 1999." BG

The RhodesGroup 20
CELEBRATING 20 YEARS

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LEGAL PERSPECTIVE

ARBITRATION VERSUS LITIGATION: CHOOSING THE BEST OPTION

BY JAMES R. MALL

Contractors entering into a legal agreement with either an owner or subcontractor are typically focused on staffing needs, work schedules and profit margins. The parties view the formal contract as the first of what each side hopes will be a continuing series of future transactions.

Mistakenly, the dispute resolution provisions of the contract are seen as "boiler plate" and are often overlooked, presumably because the parties view litigation as an unlikely outcome. Frequently, only one party to the contract selects the resolution forum, and, when no objection is raised, the dispute forum is selected without any negotiations taking place.

Many companies also seek to save time and costs when drafting contracts and avoid seeking legal counsel when finalizing construction contracts. In larger companies, in-house counsel may be involved in drafting contracts, including dispute resolution provisions, but frequently they are not experienced litigators familiar with arbitration or litigation proceedings and are focused more on transactional matters within the company. A complicating factor is that the decision to select a dispute resolution forum is made during the negotiation stage – before any disputes arise.

In theory every case should be decided on the merits according to facts and the law, no matter if the decision maker is a judge, jury or arbitrator. In practice, the dispute resolution selection made by the parties at the outset of their dealings can make a significant difference in the outcome of disputes, which arise with projects of any complexity. Depending on whether the case is filed in court or arbitration, factors such as the amount of discovery allowed, the nature of the evidence which can be introduced, opportunities to join non-parties to the contract, and opportunities to challenge a decision once it is rendered are different. While litigants are looking for the fastest and least expensive method to resolve their disputes, there are many factors that mitigate in favor of one forum over another. Unfortunately, it is impossible to say if there will be a faster and more cost effective outcome when choosing arbitration as opposed to litigation in court. Many case-specific factors enter into the selection of a forum that is likely to result in the optimal resolution of a particular dispute. In some cases, the preferred choice will be to litigate in court, and in others it will be an alternate dispute resolution process culminating in arbitration.

In the early 1980s, arbitration was not nearly as popular as it is today. There was very little discovery permitted in arbitration, fewer depositions were taken and less case management was involved. Ultimately, the case would be presented to one or three arbitrators who typically would conduct a short informal evidentiary hearing with relaxed evidentiary rules. But parties today are increasingly resorting to arbitration on the assumption that it will be less costly, more efficient and final, while at the same time being able to benefit from the customary litigation procedures necessary to prove one's case. In reality, arbitrations are becoming just as lengthy and expensive as court trials. Arbitrators are now confronted with preliminary and dispositive motions, complex discovery issues and conducting many pretrial conferences before the actual hearing is scheduled. To ensure a speedier and less costly proceeding, the arbitration provision of a contract should limit discovery in a manner that is consistent with client goals.

Several key factors should be considered by the contractor and its counsel before selecting a forum of dispute resolution:

1. **Cost.**

   The most commonly cited benefit for arbitration is that the cost will be less than litigation. This is based on the perception that the arbitration will be more streamlined, especially by eliminating or reducing the number of discovery requests, interrogatories, and depositions, which are prevalent in construction litigation cases tried in civil court. One must consider filing fees and costs involved in arbitration, which can easily run in the thousands or tens of thousands of dollars. Filing fees in a court case only amount to several hundred dollars – the judge's salary, as well as that of court staff and courtroom facilities, are taxpayer funded. Compare these fees with the American Arbitration Association's filing fee, which is based upon the amount of the claim. In a million dollar claim the initial filing fee alone is $7,000 in addition to a final fee of $7,700. Add the costs of paying the hourly or daily rates of one to three arbitrators selected by the parties and the upfront cost of arbitration is far more expensive than traditional litigation.

2. **Time of Disposition.**

   Even with reduced civil trial calendars in most state and federal courts, a dispute taken to arbitration can be resolved much faster than in court litigation. Arbitrators usually have the time to prioritize a particular case whereas judges are often burdened with other judicial and administrative duties and have to balance a case docket often consisting of criminal cases which are given priority. With fewer pre-hearing motions and hopefully a more streamlined discovery process, arbitrations are typically resolved much faster than court cases.

3. **Arbitrator/Judge Decision Maker.**

   The strongest argument for selecting arbitration over litigation is that the parties are able to select qualified arbitrator(s) from a panel of professionals with expertise in the construction industry, whether they be attorneys, architects, engineers or construction managers. While some of the larger counties have implemented a Commerce Court for complex cases which are then assigned to a particular judge with expertise in resolving those types of cases, in most court cases, judges are randomly assigned to handle a case without any input from the parties. Oftentimes, especially in the smaller counties, the background of the judge assigned to hear a complex construction case may be in family law or criminal law with little or no construction-related experience. Additionally, in the more complex large dollar cases, arbitrations provide the benefit of having three arbitrators reviewing the case which avoids the possibility that a single arbitrator misses a key fact or point of law in rendering a decision.

4. **Flexibility.**

   Court litigation is a more formal and structured process than arbitration, and judges are constrained by a series of rules and procedures, resulting in less flexibility as far as what evidence can be considered. Rules of evidence are strictly enforced in a court proceeding. However, in arbitrations, the arbitrator has some freedom in entertaining evidence that is relevant and probative but that might otherwise be excluded by a judge. Judges must follow precedent established in prior cases, but arbitrators can substitute their opinions of what is fair and just. Arbitrators also have flexibility in scheduling and adjourning hearings to suit the convenience of counsel and parties who may be involved with other projects. There is also some flexibility in arbitration for presenting evidence from witnesses who are outside the jurisdiction.

5. **Privacy.**

   Courtroom disputes are conducted in a public forum and sometimes generate media attention and bad publicity. Arbitration is a private proceeding where results are frequently confidential. There may be reasons why a particular firm desires to not have its dispute aired in public such as harm to reputation, as well as the protection of proprietary financial, scientific, or confidential business information, which is disclosed in discovery and may become part of a public record.

6. **Finality.**

   Arbitration awards are meant to be final and binding. While the law does permit challenges to an arbitrator's decision in limited circumstances, such as "fraud, misconduct or corruption," these allegations are difficult to prove and rarely succeed. In contrast, a verdict rendered by a judge or jury is subject to post-trial motions and subsequent appeals to higher courts which could take years to resolve and, if successful, could result in a new trial. The fact that arbitration awards are final can be good or bad, depending upon the result obtained, and the parties' perception of the fairness of the outcome. It is frustrating to a party who is unable to challenge an award when an arbitrator misinterprets a key fact, or even misapplies the applicable law, in rendering his or her decision because no improprieties can be established.

Parties need to carefully analyze where they wish to have a dispute resolved and at least be aware of the risks/rewards of litigation versus arbitration. Depending on the type of construction project at issue, the contractor needs to anticipate what legal or factual issues might arise during contract performance. Consult with counsel experienced in litigation and arbitration to determine what forum is appropriate to resolve any potential disputes. BG

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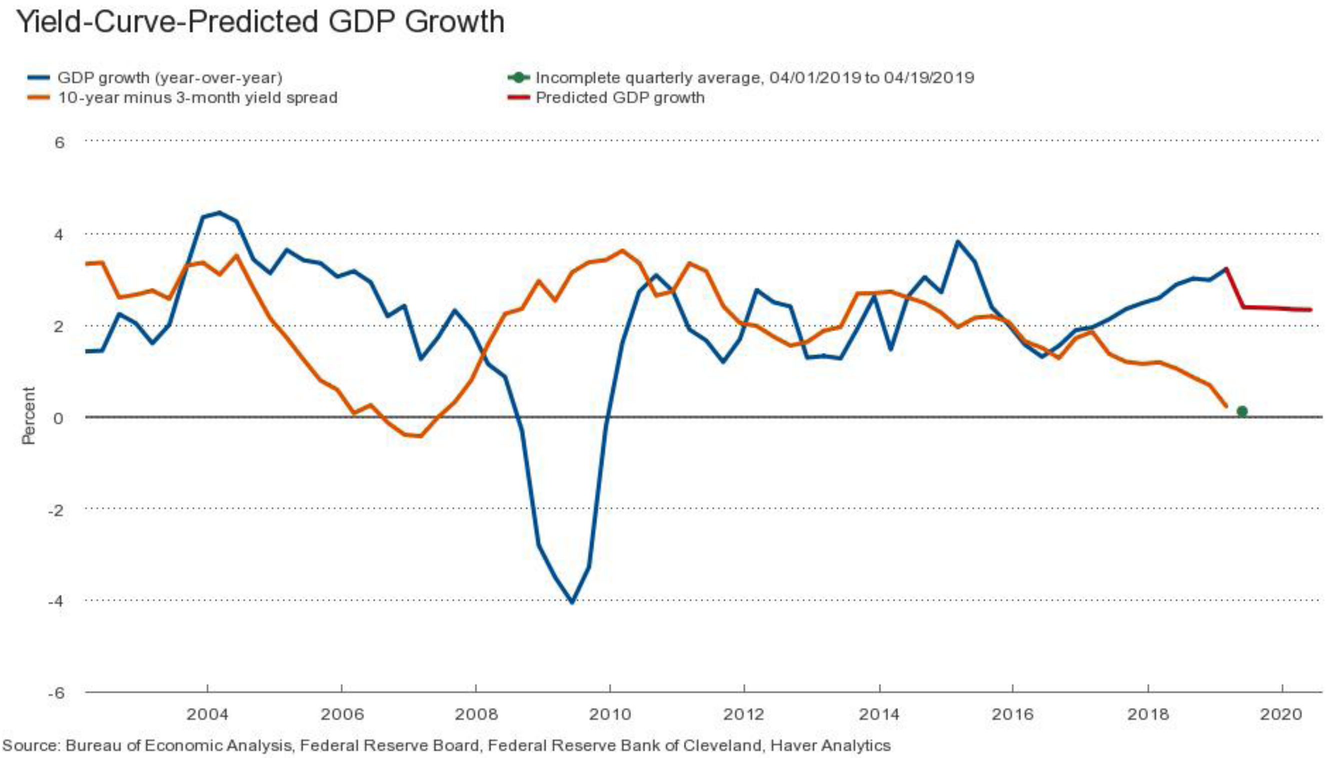
THE INVERTED YIELD CURVE EXPLAINED (AND WHAT IT MEANS FOR 2020)

Stu Hoffman, senior vice president and senior economic advisor for The PNC Financial Services Group, famously joked about the yield curve as an economic predictor by noting that an inverted yield curve had predicted ten of the last four recessions. With the yield curve inverting for five days in late March (and again in May and June), talk of the yield curve has returned to the front pages of economic journals. But does an inverted yield curve foreshadow recession or merely indicate conditions that often occur ahead of a downturn?

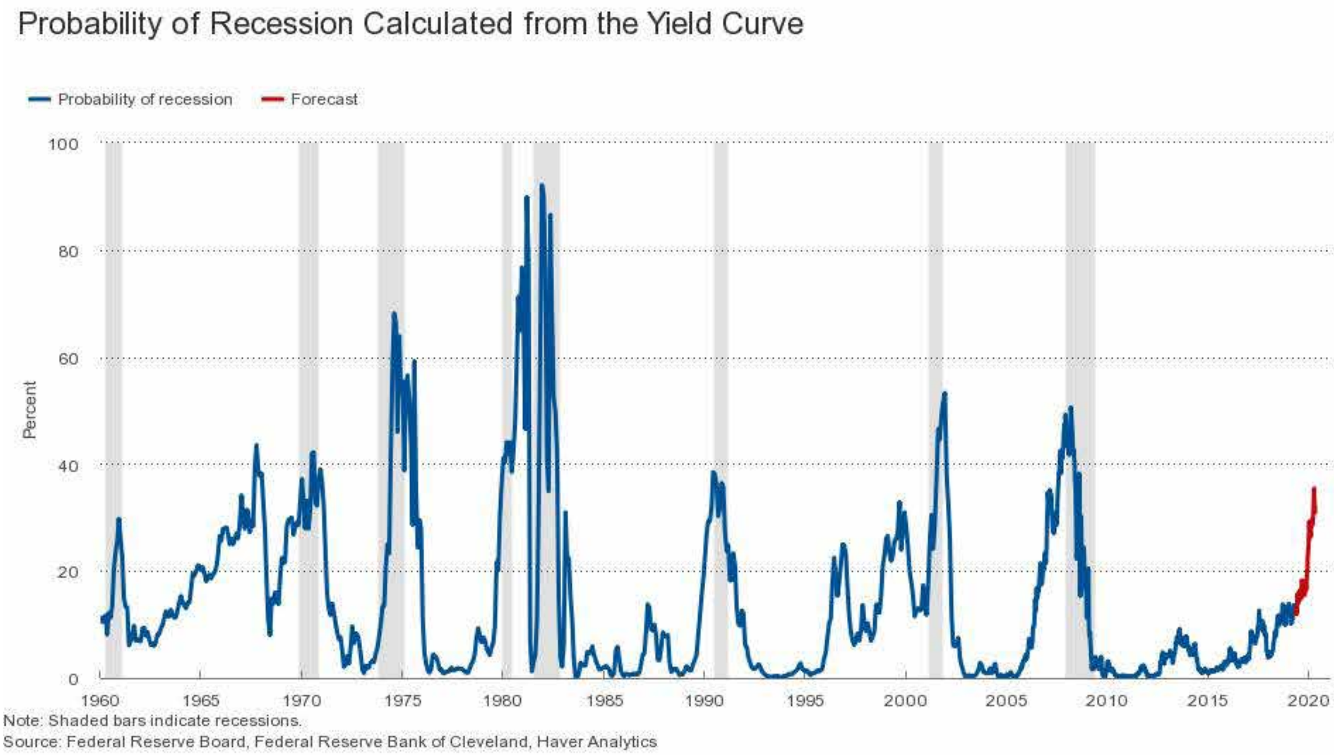
For those seeking affirmation of their 2020 recession forecast, the inverted yield curve is final vindication. Hoffman's joking aside, the last seven recessions were preceded by an inverted yield curve roughly a year before the start of the downturn. It's a development worth watching.

Perhaps the best place to start an examination of the yield curve is by defining it. The yield curve is the spread, or difference, between the yields of short-term and long-term bonds, typically the 3-month Treasury bill and the 10-year Treasury bond. Studying these yields offers an indication of how buyers of debt are feeling about the short-term (3-month) compared to the long-term (10-year) future. An inverted yield curve occurs when the yield on the 10-year bond falls below that of the 3-month bill.

Yields are the interest a borrower – in this case the U.S. government – pays to creditors, who buy the bonds for income. Creditors should logically be rewarded with higher yields for the higher risk of lending money over a longer period of time. There is the expectation that inflation will make things more expensive in the future and, therefore, yields should have consideration for that time value. As economic conditions erode, borrowers must offer higher rates of interest to attract creditors, or buyers. The lack of demand also depresses the prices of the bonds, meaning that bond prices and yields move in opposite directions. The law of supply and demand pays attention to the economy. How all of this relates to the yield curve is that when investors fear the short term outlook, they flock to buy government-backed bonds that mature further down the line. For this reason, the 10-year Treasury has become something of a bellwether for the economy. And it's why



Federal Reserve Bank of Cleveland concludes that the flat or inverted yield curve in spring 2019 suggests that GDP growth will fall to slightly above two percent.



Federal Reserve Bank of Cleveland used the yield curve to predict a 31 percent chance of negative GDP in 2020.

economists are wary about what the yield curve is telling them now.

As this magazine goes to press, the U.S. economy is marking ten full years since the start of the recovery in the second quarter of 2009, making this business cycle the longest in U.S. history. That longevity is also a cautionary signal, as most observers presume that the longer an expansion goes on, the closer it gets to recession. Seeing an inverted yield curve for a week in March, and then 32 more days in May and June, seems to confirm the suspicions of those looking for the "sell by" date for this economic cycle. But there are reasons to look at the yield curve of 2019 differently.

First among those reasons is the fact that the yield curve is not predictive of recessions in and of itself. A variety of factors can influence Treasury yields that are not connected to the underlying behavior that causes decline. Certainly, the extended period of suppressed interest rates is a variable that wasn't present during past business cycles, nor was the Federal Reserve Bank's enormous residential mortgage-backed securities buying that boosted its balance sheet to $4.4 trillion. That program artificially boosted demand for long-term debt, ensuring lower rates than the market might have asked. Even as the Fed allows maturing bonds to reduce the assets it holds, the total still exceeded $3.8 trillion as of mid-May.

Inflows and outflows of international capital can also change yields significantly, as can the changing expectations of inflation. With foreign capital favoring U.S. Treasury securities over other options, yields for all maturity dates remain lower. Likewise, after a decade of sub-two percent inflation, most economists have given up looking for higher inflation in the future, meaning that those investing ten years out don't have much of a case for demanding higher yields as a hedge against future inflation. Buyers of long-term bonds are not looking for a premium to offset long-term inflation risk.

Mekael Teshome, vice president and senior regional officer of the Pittsburgh branch of the Federal Reserve Bank of Cleveland, also points out that the inverted yield curves that presaged past recessions weren't so fleeting, generally lasting a number of weeks or months.

"In general, an inverted yield curve is a fairly reliable indicator worth watching; however, in the current environment I think the conditions that make it reliable aren't present," says Teshome. "For one, it's not been inverted for a sustained period of time. We're seeing intraday inversions or day-to-day but not for an extended period. Also, the reason why the yield curve inverts matters. There is no expectation of inflation, so long-term rates are staying low. Short term rates are going up because of strong growth. Rates aren't being driven by investor fears about the economy."

Teshome's assessment is shared by other observers of the economy.

"There was a [recent] report from Wells Fargo that suggested that, for various reasons, it may not be as significant an indicator as it once was. Everything else they look at is still positive. I'm inclined to go with that more expert opinion,"

"There seems to be downward pressure on long-term rates because the U.S. is a safe haven for nervous investors who favor Treasuries. I guess I'd have to say on balance, though, there have been a lot of reasons in the past why people have said the situation was unique that time and the yield curve proved not to be wrong. I guess I'd put a lot of weight on it as an indicator."

says Kenneth Simonson, chief economist. "It has to be a longer and stronger inversion before it becomes significant. Right now it could be a fluke, like an extreme weather event, where prices spike because of an outage and then are right back to where they started six weeks later. To continue the analogy, for the moment it looks like weather. It may turn out to be a long-term climate event."

"We agree that the yield curve is a reliable economic indicator. Looking back at the most recent three recessions, the yield curve did invert six months to eighteen months prior to the official onset of the recession," says John Augustine, chief investment officer for Huntington Bank. "That takes us back to 1990; however, this time there is a bit of a twist."

Augustine notes that there are conflicting signals coming from two different yield curves, one of which is all but demanding that short-term rates be cut. Such a move in short-term rates would return the positive spread in yields.

"What economists watch is the difference between the Fed Funds rate and the 10-year Treasury bond. That, for them, defines the yield curve for economic purposes. That relationship is currently inverted," says Augustine. "What bond markets watch is two years and out. The Fed controls interest rates inside of two years, generally speaking. The bond market controls rates from two years to 30. What those market participants watch is the difference between the 2-year and 10-year Treasury bonds. That yield curve is currently not inverted. Prior to the last three recessions, both of those indicators were inverted. There's a disagreement between economists and the bond market. What the bond market is telling us right now is that the Federal Reserve should do one or two rate cuts this year."

Several members of the Federal Reserve Bank and its Open Markets Committee (FOMC) have indicated publicly in recent weeks that they are cognizant of the bond market's signals. The yield on the two-year bond has been around 1.85 percent, indicating that buyers of those bonds expect the Fed Funds rate will be at or below that rate when the bond matures in two years. That's a counter indicator that the yield curve will revert to positive. The Fed has also signaled that it is aware of the stresses of tariffs, trade disagreements and unsettled overseas markets. Something like lower job growth in June and July could be enough to persuade the FOMC to roll back the December 2018 rate hike. That hike, which triggered a 16 percent drop in the Dow Jones Industrial Average by Christmas Eve, was viewed by many as one cut too far.

Even if the Fed keeps its powder dry, and the yield curve(s) stay inverted long enough to indicate a coming downturn, it's an indicator, not a switch. Changes in monetary policy or inflation – let alone individual business decisions – can be made to deal with the economic conditions. And there are upsides to the current upside-down long-term rate environment.

"The other thing to keep in mind is to look at the long end at these incredibly low bond rates, which I never thought we'd see again," notes Simonson. "These are benefitting municipal bond issuers, like school districts, and developers to the extent that is extending to the riskier corporate type of financing."

"If the yield curve does invert for an extended period, there is a long lead time between that signal and when the recession occurs," counsels Teshome. "Historically, the lead time has been anywhere from six months to two years."

The benefits of the current yield environment come with the risk that the flat spread between long-term and short-term rates will suppress credit. Lenders have been responsive to the uptick in demand of late, but the tight spread means banks are making less money. As they have been pushed to increase interest paid to depositors, banks are earning less interest on the capital deployed in loans. Should lenders decide that extending higher volumes of lower-earning loans is an imprudent policy, credit will become tighter. That could make development more difficult.

Dr. Kermit Baker is project director for Remodeling Futures Program at the Joint Center for Housing Studies at Harvard University and the chief economist for the American Institute of Architects. He is cautious about looking for reasons why this inverted yield curve situation may be different.

"Its track record has been quite impeccable, predicting something like seven of the last eight recessions," says Baker. "There seems to be downward pressure on long-term rates because the U.S. is a safe haven for nervous investors who favor Treasuries. I guess I'd have to say on balance, though, there have been a lot of reasons in the past why people have said the situation was unique that time and the yield curve proved not to be wrong. I guess I'd put a lot of weight on it as an indicator."

The words of the Federal Reserve Bank's own analysis of the yield curve spread may sum it up best: "The bottom line is that yield curves contain important information for business cycle analysis, but, like other indicators, should be interpreted with caution."

WINSTON DESIGN + DEVELOPMENT

It is a tough conversation to have. An employer and a valued employee sit down and come to the realization that their goals aren't aligned. But when Gerrod Winston had that conversation with the new leadership of his former employer in November 2018, he had a palpable sense of relief and anticipation.

"I think I surprised them," Winston recalls. "I thought that's great; well, here we go. I took the founding partners out to lunch the next day. They hadn't been in the meeting. I guess that's an unusual thing when there's a parting of the ways, but I really loved working there. They were very supportive and wished me well. It was a parting of the ways but they're still great relationships there."

Winston had increasingly been interested in doing projects that were community-oriented, using architecture as an instrument of social benefit. He wanted to look at affordable housing, sustainable projects in the underserved neighborhoods of Pittsburgh. His employer's practice was focused more on high-end and large-scale projects for market rate clients. Winston also believed that he could bring more benefit to the community if he were developing projects, as well as designing them. While his vision was diverging from that of his role as project architect, he had needed a nudge to take the next step.

"I was too comfortable. That's the thing. Everyone was really happy to be working there," he says. "After a while I realized that I wasn't going in the same direction as the firm. By the time we had that conversation, I was already thinking that I was going to go down a different road. It may sound weird, but I thought that it was perfect timing."

Starting a construction-related business just ahead of the holidays was less than well-timed from a sales standpoint. Winston says that the first month produced a lot of unreturned calls, but that even before the end of 2018 there were opportunities beginning to appear for this year. Six months later, there is enough work that he must now consider how he wants Winston Design + Development to grow.

Gerrod Winston is a Maryland native who came to architecture through a mix of nature and nurture. He was a kid who loved to draw and got a push in the right direction.

"When I was in grade school, I got in trouble for drawing during class time. One of my counselors told me I should find something where I could apply those skills, kind of a 'use my powers for good' thing," Winston laughs. "In high school, when I went down the list of professions that would allow me to make a good living and use my creative skills, there were very few. I tend to be meticulous and I like things well-organized, so that was a good fit for architecture."

Winston attended the University of Maryland, earning his undergraduate degree in 1995 and his master's in architecture in 1998. For the next six years, he worked for firms in Baltimore. He bought a house and renovated it while his college sweetheart – and soon to be wife – was doing an internship. The internship, with Urban Design Associates in Pittsburgh, changed both of their lives.

"I bought and renovated a house with the expectation that we would live happily ever after there. After two years she decided that she did not want to leave Pittsburgh. Rock, paper, scissors; I lost and so I moved to Pittsburgh," he laughs. "After a few years I went from begrudgingly moving to Pittsburgh to where else would I live?"

When he moved to Pittsburgh in 2004, Winston saw some of the same conditions that existed in inner city Baltimore prior to its redevelopment in the 1990s. He wondered why the same hadn't happened to Pittsburgh's older poor neighborhoods. Winston became active engaging the underserved communities in Pittsburgh with an eye towards building awareness about architecture as a career among African American students. He co-founded the Pittsburgh chapter of the National Organization of Minority Architects in 2014 and later served as president of the chapter. Winston developed a belief that as an architect he could have an impact on the underserved communities by designing high-performance buildings that could be affordable. He also discovered what he thought could be a business model.

"I had become acquainted with a man named Jonathan Segal from San Diego who was a practicing architect and developer. I look at what he was doing and the whole idea was that development could have good design," Winston says. "I believe that design definitely could be at the forefront of good development and the best way for that to happen would be for the architect to lead it. I thought if you could do both good design and good development, it could benefit both sides of the project and the community."


Gerrod Winston

It was this model that had formed

in Winston's mind over the last year. The advantage of this business model is that the architecture fees can sustain the business while the longer running development deals run their course. At the same time the development projects allow him to avoid the architectural cycle of non-stop business development followed by frantic production to meet the deadlines.

Winston admits that he has been blessed to have some early architectural commissions to launch his business. He has become Passive House-certified to take his vision of affordable and high-performance buildings to a higher level. Thus far, Winston says the communities with which he has begun discussions about developments have been supportive. He marvels at how quickly he fell into the routines of self-employment.

"I was surprised that it was really a seamless transition. One day I was working for someone else and then the next day I was starting this new thing," Winston says. "It took about a month of getting things set up, talking to people about a website and financing. Now here I am six months later, and I think I'm still getting things set up. I don't want to forget about the reason that I started this in the first place. It's a challenge to balance the two sides of the business and look for development opportunities."

"For the next six months to a year, I'm going to continue to foster those community relationships. A lot of the development that has taken place in the underserved communities has happened without much input from the community. I want to be there when the community gives input. The best projects come from knowing what the community really wants and working both sides of the equation. It needs to make sense on a pro forma side and work for the community. If it's for the benefit of the people living there, there's not much that's going to stymie it. I see some great opportunities to use my skill set to benefit those communities." BG

WINSTON DESIGN+ DEVELOPMENT

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MOBILE APPS PROVIDE ROUND-THE-CLOCK ENGAGEMENT

Just a few years ago the idea of the superintendent carrying an iPad or smart phone that was as valuable as their tools was just gaining traction. Now, of course, the skilled worker on the jobsite counts a smart phone among their tools

Software developers have taken notice. Mobile applications have been developed to assist the worker or superintendent in the field with calculating roof pitches (Carpenters Helper Lite), quantifying concrete and rebar to install (Fast Concrete Pad Calculator), monitoring safe site conditions (OSHA Heat Safety Tool), make field corrections to plans via touch screen (FingerCAD), and countless other tasks. A Google search of "contractor mobile apps" yields 51.5 million results, along with nine "best of" lists on the first page. As artificial intelligence and virtual reality develop, construction apps will proliferate.

What hasn't proliferated yet is the use of proprietary or enterprise apps by contractors. In Pittsburgh, one local contractor's association chose to solve a temporary communications problem by developing an app. The successful development and expansion of that app has led to some of its members following suit to very different ends.

The National Electrical Contractors Association of Western PA (NECA) brought on Chad Jones as executive director and Cody Phillips as assistant director not long before NECA's national convention in 2014. The pair were brainstorming ways to keep its members who were going to Chicago informed about when and where the many events were taking place. Phillips says they were unhappily considering making up a laminated bookmark when the idea surfaced to create an mobile phone application.

Ferry Electric uses its app to engage employees with its vendor partners, like Milwaukee Tool, to spread information and raise safety awareness.

"We weren't sure of the expectations of our membership as to what functions were taking place in a convention city and how we were going to reach them. We were sitting in Chad's office and thought about giving them a bookmark with all the events on it. We decided that was just so old school that we had to do something else," recalls Phillips. "The conversation went quickly from an informational schedule to 'let's see if we can make an app'. I started tinkering with some things and fortunately there are third party services that allow the development of an app."

By the time the conventioneers landed in Chicago the NECA app was available to be downloaded onto their mobile devices. The first app had event information and included some extraordinary events that would have been difficult to communicate otherwise. The NECA Western PA chapter members registered their approval.

"It was very successful. Everybody felt like they had a strong grasp of what was going on, no matter where they were in the city," says Phillips. "When we returned, Chad and I began to think about how we could use this platform to serve our members on a regular basis."

"I tasked Cody with the vision of creating a mobile application that would become a Swiss Army knife for member services. In my eyes, the development of a mobile application for our membership and this industry was an untapped, yet practical proposition," says Jones. "What Cody developed has essentially replaced former standalone objects like directories, calendars, memos, labor rates, agreements, jurisdictional maps, newsletters, photo albums, and video hubs."

Having that catalogue of information on a mobile phone has proven valuable for members, whose need for contract language, labor rates, or jurisdictional maps is often ad hoc and at inconvenient hours. The NECA app allows members to get answers at 7:00 AM or PM, whether or not anyone from NECA of Western PA is available.

"I get on the NECA app all the time," says Todd Mikec, president and CEO of Lighthouse Electric. I check the contract language in the different collective bargaining agreements. I'm getting old and can't remember phone numbers anymore so I'm on the directory all the time."

Chad Jones says he and Phillips were prepared for pushback that never really developed. NECA member owners are hardly Millennials, but there was no grumbling about the hard shift to mobile technology. One of the concerns Jones feared, that putting information in his members' pockets might cut down on interaction, has proven to be unfounded.

"I can't think of anyone who has stopped having conversations with us," Jones says. "What has happened is that the quality of the conversations has changed. We talk about substance. Instead of calling to ask about a rate, the member is calling to talk about an issue. We're talking about the things that they are paying me to work on."

Two of Jones' board members and former chapter presidents,

Image courtesy NECA Western PA.

Todd Mikec and Jim Ferry, president of Ferry Electric, were impressed enough by the utility of the NECA app that they decided to move forward with the development of a mobile app for their own companies. Both have had great success with the apps, albeit to the service of very different goals.

Mikec and his team led Lighthouse Electric to dramatic growth over the course of the past decade. The Canonsburg-based electrical contractor is the fifth-largest specialty contractor in the region, with more than $140 million in revenues in 2018 and 320 employees. As a byproduct of that growth, however, Mikec found that many of the processes within Lighthouse Electric operate in silos, often because past problems had not been solved in an integrated manner. That left redundancy and inefficiency that Mikec thought the app could remedy.

"What we did was very different from what the NECA app does. We developed a series of apps with a company called Quick Base," says Mikec. "We have 15 apps right now that we access through the Quick Base platform. There's a Lighthouse login and that gets you into our apps."

Quick Base is a "no code" application platform that specializes in rapid application development or RAD. Mikec explains that Lighthouse has been able to take many of its most common information needs and developed apps that allow communication of that information in real time. There are 20 apps in the pipeline at Lighthouse, which sees mobile apps as the best current tool for eliminating redundancy, sharing information, cutting costs, and adapting to an ever-changing marketplace.

"There is a Bid Tracker app. We have our accounting system app so that a PM can see what the job costs are up to the minute," Mikec adds. "We have an app called Kit Tracker that allows you to check the status of all of the components we're prefabricating in our shop for a project. There is another app, Tool Tracker, we use to buy and inventory tools."

Lighthouses' apps are integrated on the Quick Base platform, so logged in users can access as many apps as they need to get information when they need.

Jim Ferry saw the mobile app as a tool that would enhance his employee engagement. He cites a 2016 Gallup data analysis of 82,000 companies or business units (totaling 1.8 million employees), which showed that businesses with engaged employees have 70 percent fewer safety incidents. Ferry sought to use the ubiquitous smart phone to communicate a consistent message to his workers.

"The majority of the employee engagement is around our safety message. We want to make the sure that safety message reaches everyone," says Ferry. "The Genesis of our mobile app was recognizing that construction companies have remote workers and those remote workers have very little direct connection to our office or to me. We can have seasonal workers who will never meet or see me. A worker can spend a considerable amount of time working for Ferry Electric and not understand what is important to us. I was trying to figure out a way that I could touch those employees and those employees could be heard by the company."

Ferry acknowledges that there is value in having safety manuals, material safety data sheets, job site assessments, and all manner of tools that let employees know what the company's policies are. He didn't feel those were adequate or particularly engaging for the worker in the field.

"They might be opening the app to see a picture that another worker posted from a job site or they may be opening it up because we have a raffle going, but when they do they see a message from me that says be safe," he notes.

Ferry Electric added a way for its vendors to participate and increase engagement through what it calls Partner Promotions. Suppliers like Graybar Electric or Milwaukee Tool place videos or run contests that combine the opportunity to win swag while learning how to work safer. Earlier this spring, for example, Milwaukee ran a promotion that gave the first 25 users to open a video showing how its silica dust safety equipment worked a tee shirt. The promotion also entered them in a drawing to win a new tool combination set.

"The promotions are a win-win-win," says Ferry. "I wanted our workers to learn about silica dust control and the safety measures related to that. Our people love free tools and tee shirts. It's a win for Milwaukee because they get their red logo in front of all the electricians who see their promotion every day."

From March 6 until March 15 there were 8,166 page views, 794 sessions, and 176 unique sessions. Of the electricians registered with the app 66 percent engaged in the contest.

Ferry Electric is a smaller electrical contractor, with roughly 70 workers in the field. Although Ferry doesn't require its workers to do so, 56 of them are registered users of the app. That share gives Jim Ferry comfort that the app is helping with another benefit he hoped would come its implementation.

"I wanted to have some sort of two-way communication that kept them aware of our culture. What is our safety message? Where do productivity and quality rank?" he says. "If they don't hear it from me, if they don't understand the company's expectations they may have the expectations of their prior employer while they work for us. Those might not be the expectations that Ferry Electric wants them to have. That worker doesn't know unless I have some way of communicating it to them."

For NECA, its app has also created a number of related benefits. Cody Phillips says the ability to push notifications gets NECA communications out of the cluttered email inboxes of its members and adds urgency to its messages. The freedom from the more mundane communications has allowed NECA of Western PA to develop other groundbreaking programs. The success of the NECA app resonated around the country, sparking a partnership between NECA and Mosaic Learning to develop apps for other chapters. In the final analysis, Phillips says the ultimate benefit has been providing members continuous access to important information.

"When they need something we are not necessarily available and they may not be by a computer. But they have their phone" he says. BG

INSURING YOUR CONSTRUCTION FLEET: HOW TO MITIGATE LIABILITY AND MANAGE YOUR GROWING COST OF RISK

BY JOE KOPKO, MS, CSP

The construction industry relies heavily on the transportation of people, tools, and materials to service their customers and complete building operations across their market footprint. It is easy to see how a multitude of vehicles can become a critical component of your organization's operating capabilities. Yet the risks of this part of your operation are rarely evaluated. To further complicate matters, vehicles are often used as an attraction and retention tool for key personnel. Make no mistake, a vehicle is a complicated risk and it's of high importance to address the immediate and unforeseen short comings of your fleet program. With proper management of your fleet insurance you can create a competitive advantage for your company by taking a proactive stance and gaining control of one of the fastest growing expenses and areas of liability for construction and service firms.

Why are auto liability rates increasing?

For anyone who has already completed their insurance renewal they are well aware that auto liability insurance rates have increased substantially, and they may be feeling the pain of a "blind spot" in their operating field of vision. The industry has experienced a combined ratio of over 100 since 2011, and insurance carriers are attempting to reverse the trend and address the issues behind the years of loss. In the simplest sense a combined ratio is a measurement of an insurance carrier's profitability. The ratio roughly translates to incurred losses plus expenses divided by the earned premiums. Several factors are behind the growing costs, including rising medical expenses and vehicles are becoming more expensive to repair with embedded safety components and increased labor. The legal playing field is brimming with aggressive plaintiff attorney activity and new sources of liability are constantly emerging. Finally, the simple fact that auto related deaths continued at an elevated rate through all of 2017 further exacerbates all these factors. Needless to say, underwriters are pricing the cost of construction fleets very conservatively.

Rising premiums aside, the true concern is the unforeseen liability that many construction and service firms are currently operating with. Ask yourself these questions; Who is driving your vehicles right now? Are all of them legally allowed to be driving, how would you even know? Do any of them have questionable motor vehicle reports? Are they driving as you would expect them to be in your moving billboard? The reality is that until something terrible happens, not enough people are asking these questions proactively at the senior leadership level.

Ponder these actual scenarios; try and imagine the impact to your company, the potential liability that you could be facing, and if some variation of these examples could currently be a threat to your organization.

- One of your employees had lost their license but "forgot" to tell you and continues to drive your company vehicle. On a Friday they happen to stop for a drink on their ride home and crash into another vehicle, seriously injuring a family.
- A good worker with a bad driving history is offered a promotion, and a truck is part of the deal. A few days later they are involved in an aggressive driving incident and run a driver off the road destroying the vehicle, injuring the driver, and damaging a third party's property.
- You have GPS and telematics installed in your vehicles and a driver is flagged repeatedly for speeding. You recognize it's an issue, but they are a good employee and you agree to "take the good with the bad". They are later in a vehicle accident where they struck another car at a high rate of speed in a school zone.

Breathe. It is alarming to recognize that there are so many opportunities for a serious exposure to occur. However, there are some immediate practices that you can put into place to bridge gaps in basic compliance and shift your efforts towards active detection and driver accountability.

Strategies to mitigate liability and reduce your risk

With much of your employee's actual driving time taking place unsupervised, it is important to take advantage of processes, tools, and information to create a systematic layer of accountability. Regardless of where you are on the spectrum of addressing fleet risk, bolster your foundation by establishing these points of proactive driver risk management.

Verify, Verify, Verify! – One of the most important steps is to really know who is driving, and would their record pass the critique of the evening news. Most insurers require an annual motor vehicle record (MVR) check, but what about that employee who loses their license after the annual check and conveniently forgot to notify you? In the event their license was suspended after you ran your annual MVR, you may not become aware until the following year, leaving you exposed. Adding additional verification points into the mix can often be overwhelming, this is where active risk management should be applied. A driver risk management program can provide real time notification of driver record changes placing you in a position of awareness for the same expense of your current approach.

Verify that your field level supervision understands the dangers of allowing someone to drive a company vehicle without being cleared for use. What may seem like a quick trip to the supply house could change everything. Providing an employee with a company vehicle is a decision that should not be taken lightly. Allowing someone to drive your company vehicle that has a driving record of questionable nature can be costly. and could potentially create a scenario where negligent entrustment may be introduced. When a vehicle accident occurs, your company records including driver's history's will be discoverable during litigation. If the driver had repetitive moving violations and collisions, you will find yourself having to explain why you allowed them to operate your vehicle. Demonstrated, consistent criteria are an absolute must in today's litigious environment.

Verify at all levels of the organization that they understand and accept your vehicle policy. Simply having a policy in place doesn't guarantee your field leaders have accepted it or agree with it. It is important to verify comprehension of your policies and procedures. One incorrect interpretation or deviation from the policy can introduce long reaching consequences. The truth of the matter is that your employees may not understand or be motivated to care about the impact.

Eliminate distracted driving – Believe it or not, you can influence the likelihood that your employees will be using their handheld electronics while driving. The culture of your organization is uniquely yours, for better or worse. It is important that you spell out expectations, company policies, and acceptable behaviors regularly and with specific examples. Evaluate the messaging and actions of your project management and field supervision teams. Do they create the impression that it really can't wait and that responding to a message is an expectation regardless of what they are doing?

We generally categorize our workers by their respective trade or craft, and when they are on the job with their tools, they are exactly that; a journeyman steamfitter, an electrician superintendent, or a sheetmetal apprentice. The moment they slip behind the wheel of their company vehicle they are now a professional driver and their behaviors must reflect that. This shift in perspective will not happen without deliberate coaching and targeted awareness. Does your driving policy address the use of phones and tablets while driving? Have you discussed the dangers of this practice and the implications it could have on their future earning potential, your ability to continue employing them, or the sheer guilt that could irrevocably wash over them and your company for years to come? Culture is often defined as "the way we do things around here," clearly define your way and ensure that leaders at all levels of the organization demonstrate this commitment and put their devices down while driving.

Monitor driver behaviors - Your fleet is one of the most outward representations of your business, and a moving billboard for your organization and its reputation. Utilizing a fleet telematics system can provide you with a window to monitor unauthorized use of your vehicles after hours, provide real time location of your fleet to deploy personnel closest to the need, and monitor the driving behaviors of your employees. Additionally, telematics systems are regularly credited for up to 30 percent in fuel savings due to reduced idling and moonlighting, as well as significant changes in driver behavior. Speed is one of the first areas positively impacted by telematics use, consider that in 2016 speeding was a contributing factor in 27 percent of all fatal crashes.

In-cab cameras systems have become very affordable, as low as $50/vehicle. With the help of an in-cab camera system you can quickly determine if your driver was at fault allowing you to either settle the claim or fight. Without a video system you may find yourself defending your company for an incident that you were not at fault for, and potentially paying for it.

Scheduled driver observations are a simple, low tech alternative. Good behavior under observation typically begins to relax after 15-20 minutes, and the true character will shine through. Objective observers who have been trained on the principles of defensive driving can provide real time feedback and further support established safe work practices for lasting behavior changes. Challenge point: How many driver observations did your company complete in the last 60 days?

If managing the risk of your fleet exposure was not enough to keep you awake at night, a growing amount of information is becoming available surrounding fleet cyber threats and the impact it could have on your business. As our vehicles become more sophisticated, so do the risks of operation. According to a recent report from KPMG, fleet cyber-attacks are on the rise and you could find yourself in a hostage situation with a keystroke. As a point of reference there is about 30 million lines of code operating an F35 fighter jet, a 2016 F150 truck has over 150 million lines. In 2015, hackers were successful in remotely accessing a vehicle and accelerating it to

120mph, applying the brakes, and swerving across multiple lanes of traffic. The scariest factor is that it may not just target one vehicle, but an entire fleet that shares the same operating ecosystem. With cloud based applications providing the ability to remotely lock and unlock doors or start a vehicle from anywhere in the world, imagine the interruption to your business if you were in a cyber ransom scenario and all your vehicles are remotely locked eliminating your ability to move.

As it continues to become more complex and expensive to insure your fleet, construction and service firm leaders need to expand their team of experts to maintain resilience against a never ending series of threats. We have reached a point where hackers are targeting business systems and information not based on their perceived value on the dark web, but on how much organizations will suffer, and ultimately pay to have their operations returned to normal, your fleet has now become a target. Applying a multifaceted risk evaluation approach to your fleet program that incorporates IT, procurement, safety, operations, and HR is one of the most effective ways to anticipate these threats and manage with your head up and focused. Take advantage of the expertise and resources of your insurance broker to recommend technology, evaluate vulnerabilities, and support implementation efforts. Outstanding contractors take a team approach to promoting sustainable operations by pairing demonstrated leadership commitment and honed supervisory capabilities to actively monitor risk and engage their employees to ensure the worst never happens. BG

Joe Kopko is executive vice president, client services and business development for HUB International, a North American insurance broker. He can be reached at joe.kopko@hubinternational.com.

INDUSTRY & COMMUNITY NEWS

(From left) Mark Ritchie from Providence Engineering, Shannon Construction's Patrick Bruce, Eric Starkowicz from the Master Builders' Association and Hatzel & Buehler's Brad LaVallee at the MBA Young Constructors golf outing at Olde Stonewall.

(From left) AIMS Construction's Tim Belanger, UPMC's Aaron Bernett, Mike Tarle from AIMS, and Jordan Stone from UPMC Mercy.

(From left) Mike Norcutt from Massaro Corporation, Adam Ramsey from JLJI Enterprises, Massaro's Mike Clements, and JLJI's Todd Hillsman.

(From left) Mike Yohe, Zak Roberts, John Latsko and Mike Larson-Edwards from A. Martini & Co.

(From left) Massaro Corporation's Steven Massaro, John Leuch, Bryan Thomas, and Matt Kuban.

(From left) Brooke Waterkotte from Easley & Rivers, McKamish's Naley McKamish, Mollie Martini and Nikole Lopretto from A. Martini & Co.

(From left) Urban Terrain's Amy Hopkins, Emily Landerman from A. Martini & Co., and Amy Weiss from Weisslines at the Connect With CREW event at the Duquesne Club.

Cohen Seglias' Lisa Wampler and Lighthouse CEO Todd Mikec at the Western PA NECA Industry Evening on June 6.

NECA's Chad Jones (left) and Cody Phillips (right) with keynote speaker Sarah Robb O'Hagan.

(From left) The MBA's Jack Ramage, Cranberry Township supervisor John Skorupan and Bob Cornell from PA Commercial at the NAIOP Pittsburgh golf outing.

(From left) Don Thomas from Bellwether Enterprises, David White and Rich Saxe from Babst Calland, and PJ Dick's Cliff Rowe Jr. at the NAIOP Pittsburgh golf outing.

On Saturday, June 1, Mascaro participated in the Cystic Fibrosis Foundation's Great Strides Walk at Heinz Field. The generosity of Mascaro employees raised $13,840 for this event!

MBA's Eric Starkowicz (left), with Tuner's Drew Kerr and Jodi Rennie (right) at the March of Dimes Transportation, Building and Construction Awards luncheon.

Junior Achievement (JA) held its ground-breaking ceremony for Western Pennsylvania's Biztown on March 4, 2019. Mascaro was the builder of choice for this innovative project. Mascaro is one of many sponsors that will have a storefront located within Biztown, offering middle grade students exciting opportunities including but not limited to superintendents, accountants, tradesmen, and virtual construction. Mascaro has also taken part in teaching the preparation courses in May for JA Biztown at Chartiers Valley Intermediate School. JA Biztown hopes to be up and running in time for the 2019-2020 school year. Pictured from left are Mascaro employees Rich Krapp, Nick Depperman, Gretchen Mummert, and Amanda Smoker.

Mascaro was part of the First Allegheny County Joint Career and Technology Center Signing Day, which was held on Tuesday, May 7, at the Energy Innovation Center. Mascaro, represented by Superintendent Don Madeja, signed Cody Gallagher, a senior at Parkway West Technical Center. Cody begins his apprenticeship with the carpenters following his graduation in June. Mascaro's Don Madeja (left) and Cody Gallagher.

AWARDS & CONTRACTS

Facility Support Services was the successful contractor on the $618,000 University of Pittsburgh David Lawrence Hall Computer Room 230. The architect is IKM Inc.

Allegheny Health Network selected **Facility Support Services** as construction manager for the 8th Floor North Wing and South Tower Lab renovations. LGA Partners is the architect.

University of Pittsburgh awarded a contract to **F. J. Busse Co**. for renovations to the audio/visual credenzas in the Nationality Rooms throughout the Cathedral of Learning.

PJ Dick Inc. is nearing completion of the $10 million conversion of the former Rogers CAPA School to the Environmental Charter Middle School in the Garfield section of Pittsburgh. The project involved a complete architectural renovation and systems conversion of an historic 60,000 square foot building. The architect is Wildman Chalmers Design.

Dick Building Co. began construction on the new guest cottages at Laurel Valley Golf Club in Ligonier Township. DLA+ Architecture & Interior Design is the architect on the $2.3 million addition of four new guest cottages.

Dick Building Co. was awarded the contract for tenant improvements for Industrious at Liberty Centre. The buildout of 35,000 square feet on the fifth and sixth floors was designed by NORR Limited.

The third phase of renovations to the third floor of the WVUM Physician's Office Center (POC) ENT department located in Morgantown, WV, is underway. **Landau Building Company** has been the construction manager for all three phases. A completion date of September 2019 is expected. Paradigm Architecture is the architect.

A. Martini & Co. is the general contractor for the $1.8 million renovation of the existing PPG Place Wintergarden space for Bottleneck Management. The 13,000 square foot upgrade to the event space was designed by Dacre & Youngquist.

A. Martini & Co. was selected as the construction manager for Wabtec's new headquarters on Isabella Street on the North Shore. This $6.5 million tenant fit-out is being designed by Hayes Design Group.

A. Martini & Co. was selected as general contractor for 2815 Penn Avenue. This 42,860 square foot project is an interior renovation and multi-floor addition to the existing building. NEXT Architecture is the designer on the project.

A. Martini & Co. was selected by Bank of America to construct their new retail location in Robinson. This 6,000 square foot bank branch is being design by Gensler.

Contemporary Craft selected **Jendoco Construction Corp.** as contractor for its new $5 million exhibit hall and offices at 5637 Butler Street in Lawrenceville. GBBN Architects is the architect for the project, which involves renovations to a 13,500 square foot existing building.

Mascaro and Barton Malow are providing preconstruction services for the construction of a new recreation and wellness center for the University of Pittsburgh. It is expected that demolition will begin during the first quarter of 2020.

Mascaro received a letter of intent from UPMC to begin the process for construction of a USP800-compliant pharmacy space in Professional Office Building 1 at the UPMC Shadyside campus.

Mascaro is beginning preconstruction services for the development of the surgical services master plan renovations at UPMC Mercy. Construction is expected to start in the spring of 2020.

Independence Excavating Inc. was awarded the plumbing package for Mercer Area School District's new Soccer Field House in Mercer, PA.

Independence Excavating Inc. was awarded the sanitary sewer extension for Union Real Estate at Colony West Apartments in Moon Township.

Independence Excavating Inc. was awarded the ADA Improvements package for UPMC at Beatty Pointe Village in Monroeville.

Massaro Corporation is doing preconstruction services for the proposed $3.4 million expansion and renovation of 400 Beaver Street in Sewickley. Forastero LLC proposes to create an 8,600 square foot mixed-use retail and condominium in an historic structure. Studio St. Germain is the architect.

Rush Street Gaming LLLC and Rivers Casino announced that **Massaro Corporation** will begin construction on its $60 million Landing Hotel Pittsburgh. The 219-room hotel will be built adjacent to the Rivers Casino. VOA and Klai Juba Wald are the architects. Strada Architecture LLC is the landscape architect.

Carl Walker Construction was awarded the general construction contract for the $13.4 million Washington County Courthouse Square Parking Garage and Plaza Renovations. The architect is Strada Architecture LLC.

Duolingo selected **TEDCO Construction** as construction manager for its $3 million headquarters expansion in East Liberty. Avon Graf Architects LLC is the architect.

TEDCO Construction is renovating the 10th and 11th floors of the Union Trust Building for Jackson Kelly PLLC's new offices. The $2 million, 12,000 square foot space was designed by Avon Graf Architects LLC.

Work is in progress by **Rycon's** Building Group on Phase 4b of the renovations to Carnegie Mellon University's Hamerschlag Hall Maker Wing. The scope includes adding a maker space as well as a dust collector for a new wood shop.

Also, at Carnegie Mellon University, a renovation is underway by **Rycon's** Building Group on the first floor of the Software Engineering Institute (SEI) Collaborative Information Center (CIC). Work will involve the demolition of 2,500 square feet of the existing space into a new office.

Rycon's Building Group is the CM redeveloping two former manufacturing buildings into two three-story office buildings dubbed The Stacks at 3 Crossings for Oxford Development in the Strip District. A fit-out for Smith & Nephew will occupy 45,000 of the 110,000 square foot building. Perkins Eastman is the architect. Meanwhile, at Riverfront West, a fit-out to the first floor is expected to begin early July.

Ally Financial Offices are relocating to Cranberry Township, PA. **Rycon's** Special Projects Group is the construction manager recently awarded to complete the $2.5 million project which will feature open offices with workstations, private offices, conference rooms, break room, and copy room.

Rycon's Special Projects Group is wrapping up construction of Millie's Ice Cream Shop located on Butler Street in Pittsburgh's Lawrenceville neighborhood. The project is slated for completion July 2019.

Rycon's Special Projects Group was selected again by The Dimension Group to renovate two 7-Elevens in Annapolis and Bethesda, MD. Work includes interior upgrades such as new finishes and fixtures as well as selective demolition. Rycon recently concluded work at a 7-Eleven at the Pittsburgh International Airport.

Renovations are in progress for Chase Bank at One Oxford Centre by **Rycon's** Special Projects Group. The high-end $1.7 million project is anticipated to finish September 2019.

On the 12th and 13th floor of Liberty Center, **Rycon's** Special Projects Group will begin a multi-phase renovation for Jones Long LaSalle on the Direct Energy offices in September 2019. The $1 million, 41,000 square foot project is set for completion February 2020.

In Brooklyn, OH, **Rycon** is responsible for the $3 million renovation of Ross Dress for Less. Work includes tenant improvements and upgrades to the existing 50,000 square foot space.

Rycon is the CM on the 3,500 square foot renovation of Hometown Urgent Care in North Canton, OH. The project is expected to be completed by September 2019.

North of Panama City, FL, a new $1.2 million Tire Kingdom is in progress by **Rycon**. TBC Corporation is the Owner.

Rycon recently began constructing a new 5,000 square foot Christian Brothers Automotive Center in Norcross, GA. The $1.7 million projected is set for completion November 2019.

Rycon is the general contractor responsible for the renovation of a 44,800 square foot Burlington Coat Factory in Alpharetta, GA. Completion of the $2.1 million project is slated for August 2019.

In Harrisburg, NC, work is underway by **Rycon** on a new $1.5 million Firestone Complete Auto Care location.

Rycon was selected for the 8,000 square foot, $1.1 million Octapharma Plasma renovation in North Ft. Lauderdale, FL.

Rycon will soon begin interior renovations on two 3,400 square foot Chase Banks in Miami, FL. The projects total $2.2 million.

Progressive Casualty selected **Rycon** to renovate two of their regional claims offices in Oldsmar and Brandon, FL. Work totals $2.1 million and will include interior renovations and upgrades to the existing offices.

At Suburban Station in Philadelphia, PA, renovation to a 2,600 square foot 7-Eleven is underway by **Rycon.** Completion is anticipated for August 2019.

Rycon is responsible for the redevelopment of Valley Mall in Hagerstown, MD. The project will include demolition of a preexisting Sears into a new Dick's Sporting Goods with multiple tenant spaces each having their own exterior entry façade and storefront.

Shannon Construction was awarded a contract for the $1.6 million core and shell renovations to Station Square. The architect is RDL Architects.

Nicholson Construction Company was recently awarded the contract for anchor work at the Little Tennessee River dam in Graham County, North Carolina. The dam is the tallest dam east of the Rockies.

Turner Construction was awarded a contract for the $2.7 million University of Pittsburgh McGowan Institute for Regenerative Medicine. The project was designed by Renaissance 3 Architects and CJL Engineering.

UPMC selected **Turner Construction** as construction manager for the $8 million UPMC Shadyside Cooling Towers upgrade. The project was designed by BR + A Consulting Engineers.

DiMarco Construction was awarded a contract for the new $4.6 million operations building for Norfolk Southern Railway at its Pitcairn intermodal facility.

DiMarco Construction was awarded a contract for the tenant improvements for Double Fresh Market in Baldwin, PA. The $2.4 million project involves renovations to 12,000 square feet.

PJ Dick is providing general construction management services to Duquesne University for the $33 million UPMC Cooper Fieldhouse, an addition and renovation to the A.J. Palumbo Center. Work includes renovations to 45,000 square feet and a 13,000 square foot addition.

PJ Dick is providing general contractor services for Allegheny Health Networks Combined Cooling, Heat & Power Plant in Wexford, PA. The 8,300 square foot building will house a 2-megawatt natural gas generator, water chillers, steam boilers, pumps, and two emergency generators with a backup fuel oil system.

PJ Dick is providing concrete services for The Standard at State College, a 12-story mixed-use building consisting of ten stories of student apartments, ground floor retails, and second floor business office space over a three-level sub-grade parking facility.

PJ Dick's Mid-Atlantic office will break ground on the facade renovation to Cathedral Village, a Presbyterian Senior Living Community in Philadelphia on August 1st. BG

FACES & NEW PLACES

Nikole Lopretto joined **A. Martini & Co.**, as a project engineer. Nikole spent the first 10 years of her career working as an interior designer for Strada Architects and as a project manager for the University of Pittsburgh Facilities Management.

Jake Roberts became a member of the **A. Martini & Co.** team as project engineer. Roberts was an intern at A. Martini for four years, is a graduate of Kent State University, with a degree in construction management.

Jendoco Construction Corporation is pleased to announce the addition of **James Messina** to their staff as a project engineer. Jimmy is a Penn State University graduate with a Bachelor of Science degree in Civil Engineering.

Jendoco Construction Corporation is pleased to announce the addition of **Soumya Shree** as a summer intern. He is a graduate of Carnegie Mellon University with a Master of Science in Civil and Environmental Engineering.

Independence Excavating Inc. has hired **Jim Schulties** as the manager of its plumbing division. **Dustin Chehovits** has joined **Independence Excavating Inc.** as a plumbing foreman.

Amr El Nokali joined the **Mascaro** team on May 16 as corporate counsel and risk manager. Receiving his juris doctorate in 2002 from the University of Pittsburgh, Amr brings 17 years of legal expertise as it relates to construction.

Mascaro welcomed **Trevor Salopek** as an HSE manager to its team on May 22. A recent graduate of Slippery Rock University, Trevor completed an internship with Mascaro in 2018.

Denny Capo joined **Mascaro** on June 3 as a project manager for the client services group. He is a graduate of Robert Morris College and has over 35 years of experience in interiors.

On June 10, **Olivia Rockwell** joined **Mascaro** as a project engineer. A former intern and recent graduate of Penn State, Olivia will be assigned to the Penn State Ag Digester project.

Mascaro hired **Jamie Gildersleeve** as human resources director on June 12. A seasoned human resources and project management professional, Jamie received her bachelor's in human resources from Geneva College and an MBA in management from Point Park University.

Karpinski Engineering announced that **James E. Dudt**, P.E. LEED AP BD&C, has been promoted to principal. Dudt is the director of Pittsburgh operations and earned his B.S. in Mechanical Engineering from Grove City College. He is a registered professional engineer, a LEED Accredited Professional, and a member of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). Dudt is involved in the AIA-MBA Joint Committee, where he was part of a design-assist taskforce authoring a best practices guide. BG

Master Builders' Association
Of Western Pennsylvania, Inc.

2019
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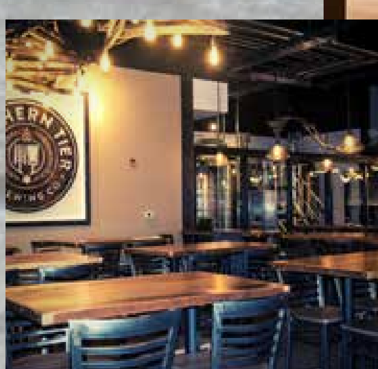
Building Excellence Awards

Entries for this year's awards competition are due Friday, October 11, 2019







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CLOSING OUT

BY WILLIAM J. BATES, FAIA

Pittsburgh has a global reputation for being very resilient. It's most well know for its astounding recovery from the collapse of the steel industry. Now it faces some of the same challenges that many other cities face. Those threats include balancing sustainable growth with equitable communities and mitigating the effects of climate change. Architects in our region are now designing with these issues in mind.

In the decade preceding the Paris Climate Agreement, our country added some 20-billion square feet of building stock, yet, thanks to smart, energy efficient design, total energy consumption remained mostly flat. Also, last year, according to the American Institute of Architects' 2030 By the Numbers report, collectively the designs of the firms participating in the 2030 Commitment resulted in energy savings equivalent to the amount of carbon sequestered by a 21-million-acre forest in a year. All of which highlights what we all know: architects are essential to solving some of the most challenging problems we face today.

However, smart, energy-efficient design alone will not help us to meet the carbon-reduction goals needed to forestall or to prevent the worst effects of climate change. We need policymakers, at all levels of government, everywhere, to implement policies that encourage architects, builders, our clients, and others to make reducing the carbon footprint of the built world a top priority.

The American Institute of Architects (AIA) encourages its 94,000 members to design carbon-smart buildings and advocate for policies and programs that support carbon-smart practices. Further, the AIA is engaged in all four elements of achieving the Paris targets in the building sector, designing high-performance buildings, renovating existing buildings to meet high-performance standards; addressing embodied carbon in building materials and construction processes, and promoting renewable energy on-site and off-site.

Also, AIA's Blueprint for Better campaign encourages and empowers architects to go beyond their comfort zone as trusted advisors and become directly engaged in their communities as civic leaders. The campaign also emphasizes the role of the architect as the convener of their local communities' business, public, elected, and academic leadership, and it helps to foster productive conversations to ensure that architects always have a seat at the table when critical civic decisions are made. Bottom line, ensuring that we remain central to policy discussions is more important today than it ever has been, and will be even more critical in the future.

The phrase "People – Purpose – Partnership" gets at what's most important for achieving our shared goals especially in this age of deep political polarization. People are at the heart of everything we do. Therefore its critical that we make our profession as inclusive as possible to reflect the changing demographics of the society that we serve. It's no surprise that studies now show that diverse teams are better and faster problem solvers. Our public is looking for an architectural profession they can relate to and one that will listen to their needs and understand their perspective. To that end the AIA has published equitable practice guidelines to help our members enhance their firms' ethics and culture.

Our purpose should be to leverage our design and unique problem solving skill set to build a more sustainable, just and inclusive society. If we are to improve the quality of life in our communities we must devote as much attention to the solving the problems of disenfranchised neighborhoods as we do the prosperous ones.

Partnerships with allied professionals and civic leaders are vital because we know that architecture and architects cannot solve all the issues of our time alone. That said, by using our commitment to creative compromise and constructive collaboration, we can lead lasting, positive and meaningful change in our communities, country, and global society. Lawmakers, civic and business leaders, and others realize what we already know: That the lasting, equitable and sustainable solutions they seek in crucial policy areas, such as affordable housing, school safety, and resilient communities require the unique expertise and technical abilities of architects.

As our leaders grapple with how to address the impact, mitigate the effects and plan for a future shaped by a changing climate, our profession can offer the technical skillset, innovative instinct, and passion for public service needed to find positive and equitable solutions.

The fact is, our profession, the broader industry and ultimately our society are undergoing tremendous change. As we all navigate a landscape marked by constant transformation, we must work together to ensure that our profession continues to adapt to meet evolving needs and expectations.

Bill Bates

As a profession, architects have a duty to lead. Ultimately, we all have a responsibility to make our world a better place for everyone to live, learn, work and play.

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