Breaking Ground

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA

MARCH/APRIL 2017

HEALTHCARE 2017:
Trends Driving Construction

Children's Hospital of Pittsburgh of UPMC South

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Featured Project: Hot Metal Flats, Pittsburgh, PA

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Contents 2017

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

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

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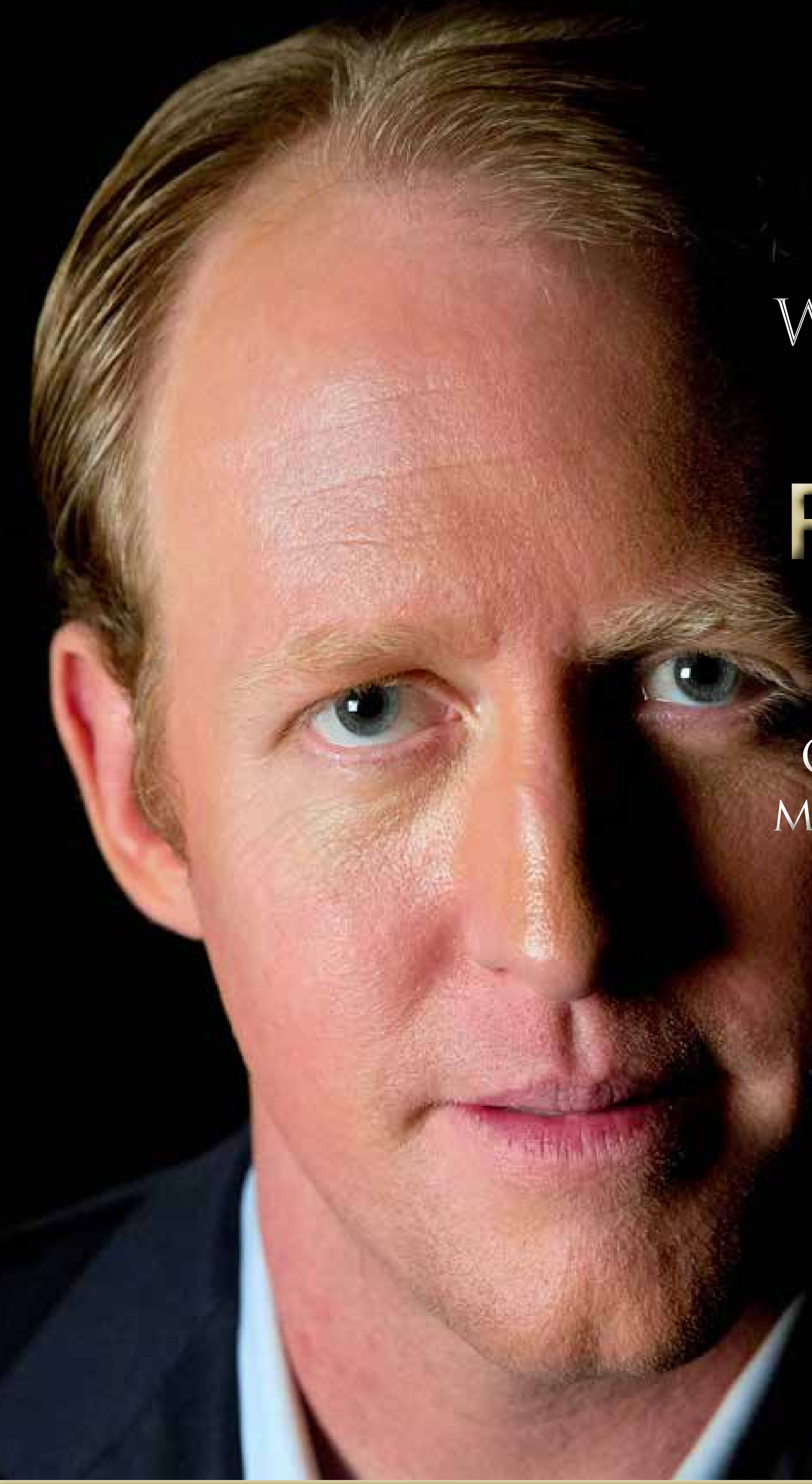
Cover image:
UPMC Children's South Fayette
Photo by Adam Warner, IKM Inc.

Correction:
The architect for the Doubletree by Hilton ballroom renovation reported in the January/February edition was reported in error. The project's architect is ThenDesign Architects.



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PUBLISHER'S NOTE

McGraw-Hill employed a chief economist named George Christie back in the days I worked there. He was an interesting speaker, as economists go, and he would travel around the country doing private forecasts for the Dodge/Sweets manufacturer customers. During the 1991-1992 downturn, he made a remark to a Pittsburgh audience that sticks with me to this day. After answering a question about the outlook and sensing that the questioner was hoping for a rosier reply, George asked the guy if there were some other industry that he thought was doing better.

It was a point well taken. Auto makers were getting clobbered. Banks were still reeling from the S & L crisis. Computer companies were shedding hundreds of thousands of jobs. Things in construction were tough but it wasn't much better anyplace else. I was struck again by George's revelatory question while researching this edition. No matter what's going on in my business, I'm glad I'm not working in healthcare.

The feature article in this edition of BreakingGround is focused on the healthcare sector of the construction industry. By my recollection, this marks the fourth time in ten-plus years that we have examined the state of healthcare construction. As the research for the feature winds down I'm struck by how different that piece of the industry is compared to the other editions and reminded me how that same thing was true the last time we focused on healthcare.

The first time we looked in on healthcare construction, the new Children's Hospital was under construction and on the cover. That period was the end of a high-water mark for hospital construction. Pittsburgh was a good market for hospital construction, and even though the West Penn Allegheny Health System was struggling, it seemed then that the ride would go on for a long while. The financial crisis and election of 2008 changed all that.

When we examined how the hospital market was doing next, the Affordable Care Act (ACA) was in the incubation stage and providers were trying to figure out what a rolled-out ACA would look like. In Pittsburgh, the healthcare systems were also beginning to believe that the looming expiration of the UPMC-Highmark contract would not end with another agreement.

Over the past five or six years since ACA rolled out, the providers and insurers have been struggling to gain some business certainty. When BreakingGround updated the market in March 2014, that uncertainty was the defining characteristic of the healthcare industry. Hospital systems pared back spending dramatically as they tried to figure out what patient needs would be and how the physical plant would need to shift to match them.

Now the pendulum is threatening to swing back again, just as the hospitals are investing much more in facilities. If the ACA is completely thrown out, it's hard to imagine its replacement having the same business model as the one to which the healthcare industry has adapted since 2010. Of course, the industry will adapt again to whatever system prevails.

Regardless of the outcome of the latest round of healthcare reform, it seems certain that few people – and virtually no one elected to office – will want to talk about the real healthcare problem, which is the high cost of healing people. Tort reform. End of life treatment. Pharmaceutical regulation and development. Redundant services. These are complicated and nuanced subjects that are charged with emotion. For any number of reasons, Americans seem to be seeking black-and-white answers to complex problems these days. Maybe we're not capable of understanding complexity but I think the more likely issue is that we have lazy leaders who don't want to try to help us understand. Hearing them speak, I'm not sure many of our leaders understand either. But before very much longer, we're going to have to make some tough decisions or the system will implode under its own weight.

In the Closing Out article, I asked Harold Miller to talk about the subject of healthcare costs. It's a definite tangent from the discussion about how the trends in healthcare are influencing construction but I have faith that readers of BreakingGround are sophisticated enough to consider the subject thoughtfully. Healthcare costs are mushrooming and it's not because of Obamacare. They were mushrooming before 2010 too. Anyone who remembers the HMOs of the 1990s knows that this is a discussion that's at least a generation old. We can monkey with the laws regulating healthcare all we want but until we get a handle on how to contain the costs, it will get more expensive. And there are no fixes that will make everyone happy, regardless of what a politician tells you.

The next few years are going to be good ones for firms serving the healthcare industry but there is the real possibility that some of the systems that are investing in buildings will be losers in the game. Construction is a tough business but to paraphrase George Christie, it's a business that looks a lot less risky than healthcare.

Jeff Burd

REGIONAL MARKET UPDATE

Construction activity in January and February in the metropolitan Pittsburgh area got off to a better-than-average start. On the residential side of the market, permits for single-family homes continued their trend. Even though construction of multi-family units is likely to be significantly lower in 2017, several hundred units of apartments were started during the first two months. On the non-residential side starts were up significantly mostly due to the delayed start of work for projects that were contracted in 2016.

Commercial and non-residential contracting totaled $548 million during January and February. That is an increase of 15.5 percent over the first two months of 2016, a period during which the Tepper Quad, Thomas Jefferson High School and Point Park's new Playhouse accounted for more than $225 million. The forecast for the full first quarter is for a brisk $800 million or more, an indicator of a solid year.

Among major non-residential projects started during the first two months of 2016 were the Oaklander Hotel and AC Hotel being developed by Concord Hospitality, and the long-awaited Even Hotel in the former Macy's (or Kaufmann's) building. Work began on the $60 million NRG Uptown district energy plant; the $28.5 million UPMC Presbyterian Hospital Heart Vascular Institute; Trek Development's 135-unit Eighth and Penn apartments and Oxford's 173-unit Emerald on Centre apartments; and the $40 million Burgettstown compressor station for Energy Transfer Partners.

Housing starts were essentially flat for new single-family homes but 364 apartment units were started since January 1. No apartments were permitted during the first quarter of 2016, although construction eventually began on more than 2,100 units. With a smaller pipeline of projects in planning, apartment construction will taper to between 1,200 and 1,500 units in 2017. Warmer, dryer weather should have been a boon to home buying and construction but the 254 units of detached new homes was one more than the total for January/February 2016. The dynamics of the single-family market are the mirror image of the apartment market, with an increasing number of lots in development coming into the available inventory. The warmer weather, in fact, should provide an earlier sales kickoff and boost new home construction throughout 2017.

	SFD	SFA	M/F	TOTAL
Total Pittsburgh MSA 2016	2,095	832	2,124	5,051
Total Pittsburgh MSA 2015	1,998	959	2,387	5,344
% Change	4.9%	-13.2%	-11.0%	-5.5%

The year 2017 was one that commercial real estate professionals were viewing anxiously as recently as two years ago, but job creation dynamics may have eased those fears. Although Pittsburgh's job gains have been mostly flat since 2013, gains in financial and business services have been strong and should accelerate over the next few years. That's the opinion of Richard Barkham, chief global economist at CBRE. Barkham forecasts demand to increase by 1.1 million square feet by 2020, outstripping supply. Concerns about coming vacancies of more than 500,000 square feet at 525 William Penn Place and 600 Grant Street, and fears of an exodus from One Oxford Centre as new ownership bumps rents significantly, will prove to be unfounded should Barkham's forecast be correct.

Job growth – the key to demand for commercial real estate – continues to be anemic and uneven in Pittsburgh. The government's preliminary estimate for employment growth in Pittsburgh for 2016 slipped to 2,400 jobs. That figure was actually slightly higher than the average for the past four years, although if recent history holds there will be further erosion to the jobs number when the final estimate of employment growth is issued later this spring.

In recent years, initial reports of annual growth estimates in the Pittsburgh MSA ranged from 6,400 to 18,200 jobs, but inevitably final numbers were revised downward to show little growth. This year, the preliminary annual average was more in line with the final estimate from previous years and the range of monthly estimates was narrower. Monthly growth estimates varied between 5,200 and a decline of 3,800 during 2016, whereas the range was 9,000 to 33,000 during various months in 2016.

Given the fact that the data is ultimately still an estimate, it is possible that the government has adjusted to the new economic base in Pittsburgh and the revisions will be minimal or positive. Regardless of the final outcome, there is less confusion about where the strengths and weaknesses of Pittsburgh's job market are.

As was the case in the past few years, the anemic growth can be blamed on the decline in energy and manufacturing employment. Job losses in the energy sector – captured in the category of Mining and Logging – were above 16 percent in 2016 compared to 2015; however, it's worth noting that employment in this sector is still relatively small, with less than

10,000 jobs tied to it. Moreover, the change in employment in Mining and Logging since the peak of the last business cycle in 2007 is a gain of 92.5 percent. Losses in manufacturing in 2016 actually totaled more than those in energy, even though the percentage of loss was only 2.4 percent. Similarly, the number of manufacturing jobs lost since 2007 is roughly 15,000, or more than total employment in the Mining and Logging category.

While employment isn't growing as rapidly as hoped, a Brookings Institute report on wage growth in the U.S. reveals that Pittsburgh has fared better than most cities. The study of wage growth between 2010 and 2015 found median earnings in Pittsburgh grew 6.6 percent. That ranked the metropolitan area 22nd in the top 100 cities; however, among the top 30 U.S. cities, only Houston and Orlando saw wages rise faster.

The segment that dominated construction in Western PA in 2016 – energy – continues to show signs of a rebound but action in the global oil markets in early March should serve as a reminder that the recovery is fragile. Oil prices fell more than ten percent during the week of March 6, as growing U.S. shale production offset increasing demand by a large amount. While oil producers continue to shift their focus from oil to natural gas, their fortunes are still heavily influenced by the oil markets and another dip in price near the January 2016 lows could limit capital spending again. With the price of natural gas seemingly decoupled from the oil price, however, it seems likely that the midstream and infrastructure buildup in the Marcellus and Utica will continue.

The 800-pound gorilla in the Appalachian region's capital investment, the Shell plant in Monaca, has moved from the "ready work" stage to the point of plant construction. As has been reported, the main batch plant for the three-year concrete pour is nearing completion and construction of the massive foundations and structural concrete should begin shortly. Estimates from Bechtel are for 1,000 workers to be active on site by the end of 2017, with the build towards peak employment of 5,500 workers beginning in 2018.

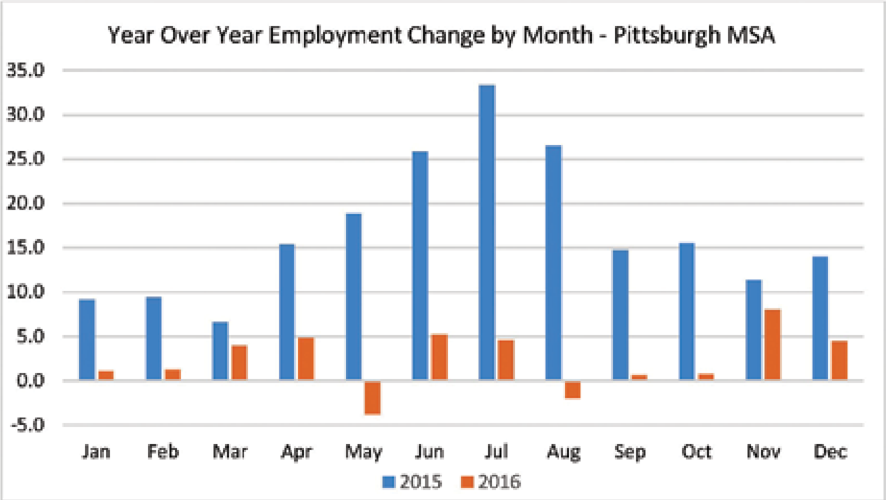
Further downstream from the Monaca site, PTT Global Chemical America announced that it was deferring its final investment decision on a one-million-ton ethane cracker in Dilles Bottom, OH. Rumors have circulated that PTT was experiencing problems lining up ethane supply and that Exxon was in the process of negotiating to acquire the project from PTT. In explaining the decision to take the rest of 2017 to evaluate competing engineering proposals from Bechtel and Fluor, however, PTT's CEO Toasaporn Boonyapipat was explicit that the company had signed supply agreements and was going to need more time to choose between the two approaches. Given the project duration and a cost environment that is escalating more rapidly, it is likely that the proposals PTT received went beyond the budget.

For the region's natural gas industry, even halting progress on projects that will be large consumers of ethane is more good news. U.S. ethane exports are growing at a rapid clip, a trend that adds to the growing demand sources for natural gas. With the expansion of more pipelines, including the Mariner II pipeline through Pennsylvania, and incremental growth in the usage of natural gas, the justification for the Appalachian exploration gets stronger.

As for the mainstream building construction market in Western PA, the upwards trend in commercial and institutional projects is holding. Architects and engineers report higher billings and backlogs coming into 2017, which is a good sign for the latter half of the year. Absorption and leasing activity remains solid.

Only the publicly-funded building sector of the market looks weak for 2017 and that is also a continuation of a longer trend. Budgets have not been increased for both the PA State System of Higher Education and Department of General Services, meaning that updating and expansion at public universities will be minimal – outside of Penn State. In the K-12 market, the impact of Act 25 of 2016 continues to freeze PlanCon until June 30, when the moratorium expires. Assuming the legislature does formulate a viable alternative to the current PlanCon system, it will be 2018 before projects caught in the queue can get to the marketplace.

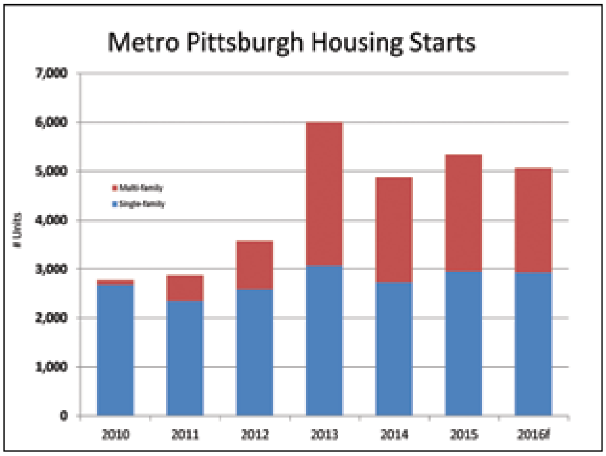
Public funding for highways and bridges is the bright spot of the government market. The rollout of Act 89 of 2013 puts roughly $2.4 billion in the budget for PennDOT lettings in 2017. The budget for capital spending on the PA Turnpike will remain north of $500 million. Major projects on I-70, Ohio River Boulevard and the Liberty Bridge are among the highlights for repairs to existing infrastructure. Extension of the Southern Beltway from Route 22 to I-79 gets underway in earnest in 2017, as two major portions will bid and a third has started construction. BG

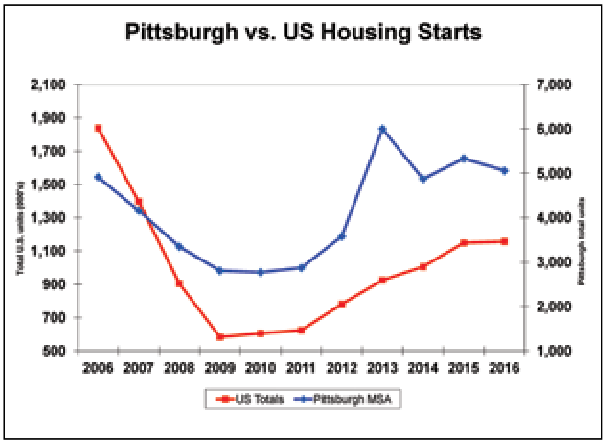


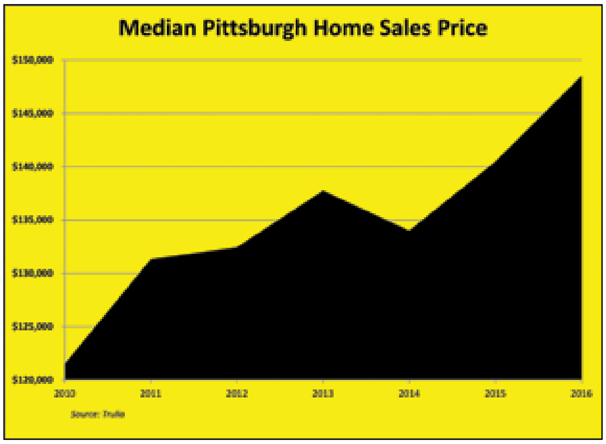
Source: Bureau of Labor Statistics, Current Employment Statistics.
Image courtesy Allegheny Conference on Community Development

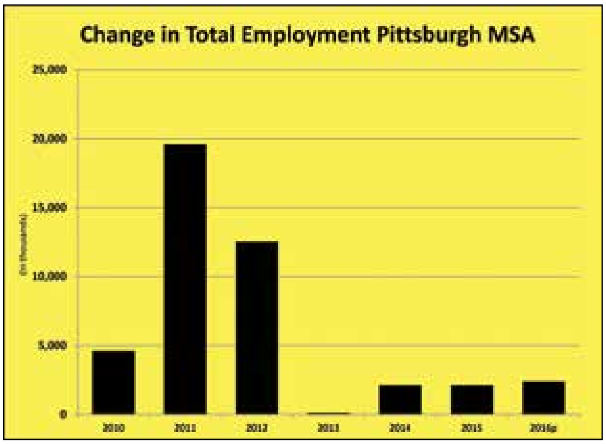
MARKET METRICS

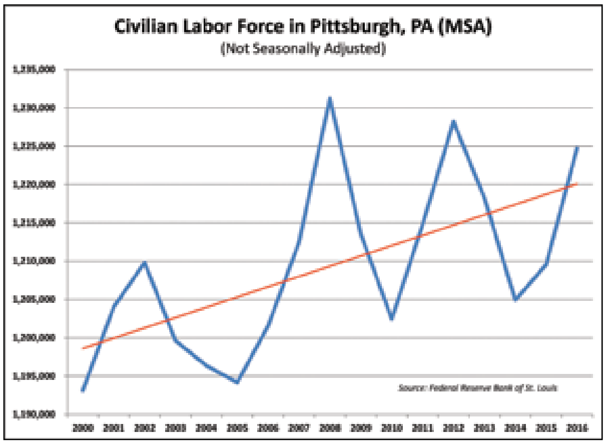
BENCHMARK	Jan-Feb 2016	Jan-Feb 2017
Total SFD units	253	254
Total SFA/Multi-unit	114	454
Total residential $$	$91.8 million	$158.4 million
Total non-residential $$	$474.5 million	$548 million
K-12 Additions/renovations	$99.3 million	$15.2 million
Healthcare construction	$7.6 million	$15.4 million
Hotel construction	$14.4 million	$57.4 million
Industrial construction	$49.8 million	$50.3 million
Office construction	$59.4 million	$146.1 million
Higher education	$165 million	$18.1 million







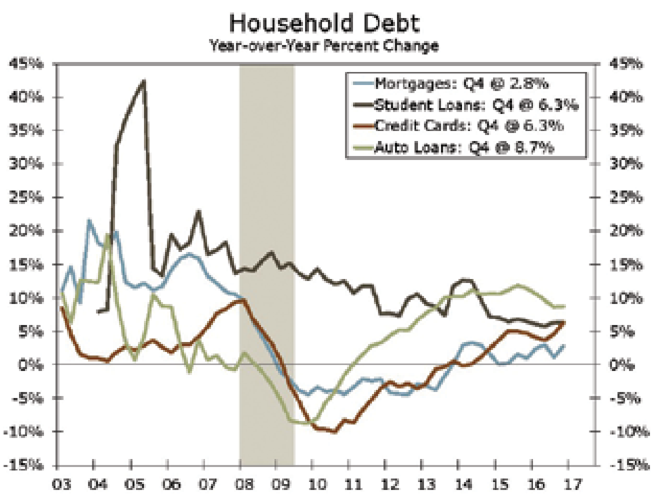


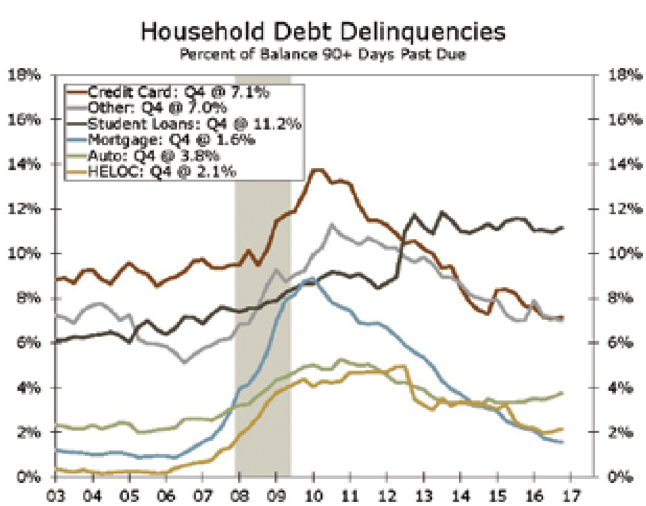


NATIONAL MARKET UPDATE

Monthly data released at the beginning of March offered some of the first glimpses of the impact of the change in administration in Washington, DC. While it's too early to measure results resulting from substantive changes in governing, there are signs that consumers and businesses expect improvement in the economy.

March 1 saw the release of the Federal Reserve Bank's Beige Book, a summary of surveys and informal feedback from businesses throughout the Federal Reserve's 12 districts. Beige Book respondents indicated that the economy was expanding at a "modest to moderate pace from early January through mid-February." Business owners continued to cite skilled workforce shortages as a drag on growth by forcing higher wages.





Household borrowing expanded again in 2016 but the allocation of the debt appears to be sustainable, particularly in relationship to assets pledged to the loans. Source: Wells Fargo Securities Economics Group.

Consumer spending is responsible for 70 percent of U.S. gross domestic product, which the Bureaus of Economic Analysis estimated to have hit a record $18.6 trillion in 2016. Consumer confidence rebounded again in February to levels not seen since July 2001. According to the Conference Board's survey of consumer sentiment, the headline confidence index reached 114.8 in February, the third rise in four months. A similar survey, the Thomson/Reuters-University of Michigan Survey of Consumers reported a five-point jump in consumer sentiment over February 2016.

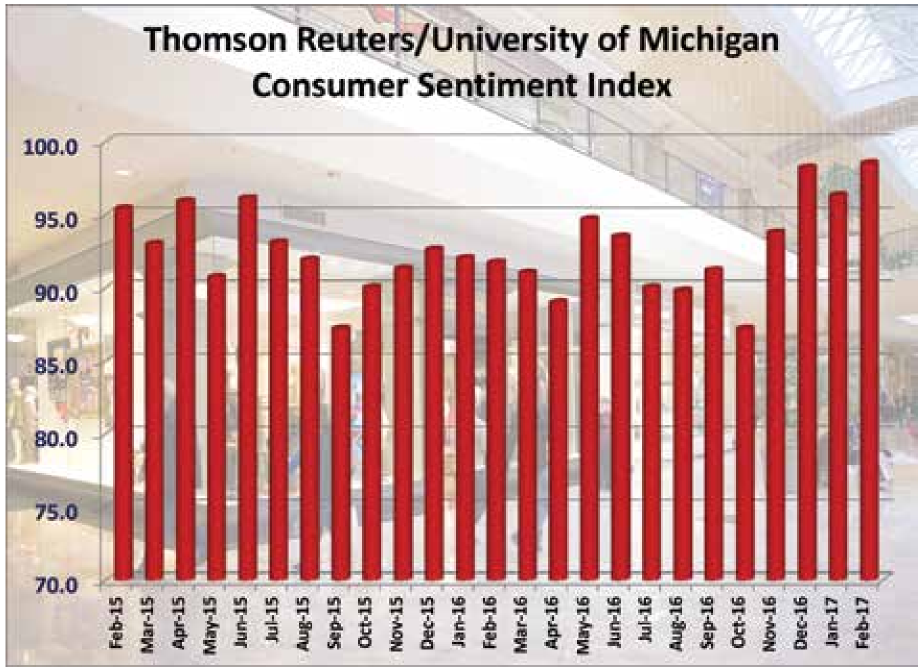
Beneath the headline index, the Conference Board's survey found that 20 percent of Americans surveyed expected job growth to continue; seven percent more people believed that it is easy to find work instead of difficult. Looking to the future, 18 percent expected their wages to increase in the coming six months and one in four expected better business conditions. Responses indicated that the improved confidence was in expectations that the Trump Administration would enact policies that would translate into tangible economic benefits.

One tangible measure of current consumer confidence is the amount of money consumers are willing to borrow – and able to be lent. During the final quarter of 2016, household debt grew by a robust $226 billion to a total level that was just below the all-time high of $26.68 million in 2008. Wells Fargo Securities Economics Group pointed out in its March 1 Interest Rate Weekly that the composition of the household debt differed significantly from the pre-recession bubble. Rather than overleveraging home equity to finance non-asset purchases, consumers have mortgages and home equity loans (HELOC) that are below historic ratios to equity. Moreover, the delinquency rates for each are cyclically low, at 1.6 percent for mortgages and 2.1 percent for HELOCs.

January's $3.8 billion decline in revolving consumer debt was a further sign that thus far, U.S. consumers are not moving away from the trend of more savings and better credit discipline since the crisis of 2008. Non-revolving credit continued its growth in January, expanding by $12.6 billion.

Not surprising was the higher-than-normal growth of auto loans, as sales of autos and trucks reached record territory in 2016. One trend that is of concern is the continued steady growth rate of student loans in light of the rising rate of delinquency in that category. Student loan volume grew by 6.3 percent last year. Although that's down from the more than 20 percent growth rates of 2006-2007, student loan delinquency has nearly doubled in the same time frame. As a drag on the borrowing capacity of the younger generation, this category of debt will also be a drag on home ownership.

Banks are signaling a response to the household debt that is in line with the borrowing. On balance, eight percent more

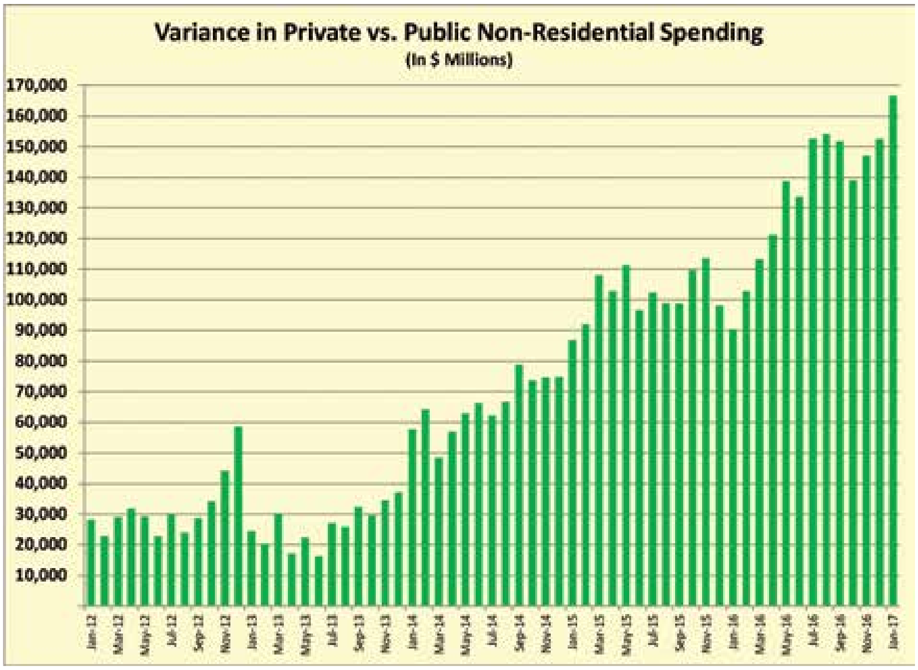


Consumer sentiment moved to a higher level post-election

banks say they are tightening credit card standards in 2017, while 11.7 percent more say they are tightening auto loan standards. Conversely, most banks say that they will ease mortgage credit standards slightly again in 2017, regardless of government intervention on Dodd-Frank regulations.

Expect the opposite reaction to credit conditions on the commercial side of the real estate market. Demand for commercial real estate loans slowed as 2016 went on, with banks cooling on multi-family and hotels, while becoming slightly more cautious about construction lending. The Federal Reserve's January Senior Loan Officer Survey revealed that credit standards were tightening "significantly" for multi-family (noted by 33 percent of the lenders) and land development (25 percent) projects. Investor interest – particularly foreign investor interest – shows no signs of lagging in 2017. Financing scenarios for commercial real estate in 2017 may require more flexibility on the debt portion of the deal but liquidity and capacity should be more than adequate to meet the needs of development.

Economists following the construction industry expect that demand from commercial and non-residential projects will cool in 2017, although there is the expectation that



Diminished public revenues and slightly more robust private investment pushed the gap between public and private non-residential spending to post-recession highs.

contracting will increase again by between three and five percent. The recovery from the 2008 financial crisis and recession has been unlike that of other post-World War II cycles, including the extended period of moderate growth that ran from 2012 through 2016. Unlike previous cycles, which included at least one year of double-digit growth in the early stage of recovery, the current building cycle has seen a handful of five-to-eight percent growth years. That streak is likely to end in 2017.

Construction spending in January totaled $1.180 trillion, according to the March 1 report by the Census Bureau. That rate was down one percent from the month before but up 3.1 percent from January 2016.

Private residential construction spending increased by 5.9 percent over the past year. Private non-residential construction spending increased 8.9 percent year-over-year. Increases in commercial construction (up 12 percent) and power construction (up 5.8 percent) offset declines in manufacturing, which fell 6.8 percent. Notable among the subcategories in the non-residential segment was a 34 percent jump in office construction compared to January 2016.

Public construction spending sank nine percent in January from the January 2016 level. Biggest declines came in public infrastructure investment, as plans for state and local highway infrastructure ran into rising prices and falling revenues. Highway spending fell ten percent year-over-year. Double digit declines were felt in other infrastructure segments also, as transit dropped 12 percent; wastewater projects plunged 27 percent; and spending on water supply and treatment declined 11 percent. State and municipal revenue streams are not expected to rise dramatically in 2017, leaving a major federal program as the surest way to higher infrastructure investment.

The gap between public and private investment in non-residential structures spiked again in late 2016 and reached a new post-recession high in January. Few states or municipalities have seen revenues recover sufficiently from the financial crisis to consistently add to budgets for public construction. In part the growing gap is a reflection of the strength of the private sector but an anemic public sector creates unhealthy market pressures in the construction industry. And as a matter of public policy, declining investment in public structures defers maintenance to a time when the construction will cost more.

Residential construction had a stronger year in 2016 but like with non-residential work, there should be slower construction activity in 2017. The fundamentals of residential construction remain very solid. Home values are increasing almost across the board. Apartment vacancy rates are beginning to edge up and rental rate growth slowed to 1.8 percent in 2016. With multi-family development finally cooling, the stage should be set for single-family housing to accelerate, especially as Millennials move into child-rearing years; however, the latter trend is not up significantly and the economics of residential land development aren't encouraging an increase in the supply of residential lots. Supply and demographics are expected to keep a lid on growth of residential new construction in 2017.

January's housing construction activity showed an extension of the trend in single-family homes. Following a year that saw a 9.3 percent gain in single-family construction, the Census Bureau reported on February 16 that single-family housing starts rose ten percent in January compared to a year earlier. Multi-family starts were still up 4.6 percent year-over-year but the trend is for that gain to narrow as 2017 plays out. January's housing starts hit 1,246,000 units – annualized – with permits reaching 1,285,000 units. The construction activity in January continued a steady, five-year climb that has seen starts grow nearly 75 percent over the past five years.

Thus far there has been little to raise concerns about housing from the job market. The March 10 report by the Bureau of Labor Statistics showed employers adding 235,000 jobs in February on the heels of growth of 238,000 in January. Most encouraging of the February data was an increase of 28,000 manufacturing jobs, the best month since mid-2013. Unemployment fell again to 4.7 percent, even as labor force participation rose slightly.

The stability in the labor markets through February made an increase in interest rates by the Federal Reserve a certainty at its March 15 meeting. Judging by the reaction of the markets to the economic news, that increase and two others seem baked into expectations. While rising rates don't generally encourage development, the magnitude of the expected increases – 75 basis points in all - is small and the certainty of the Fed's reaction seems to be a welcome sign that the economy will be reliable in 2017. BG

WHAT'S IT **COST?**

By nearly all measures the cost of materials and labor consumed by construction is on an upward trend. While the trend is but a few months old, the magnitude of change in several key materials bears watching. History shows that inflation tends not to change moderately.

Basic metals pricing is proving to be the most dynamic. Steel reinforcing bar prices rose $110 per ton during the fourth quarter and jumped $40 per ton in January. An additional $45 per ton increase occurred in February and the outlook for 2017 is for another five to seven percent increase. Copper prices have also rebounded from the 2016 floor, increasing from $2.10 per pound to the $2.70 per pound range. Bumps have similarly been felt in zinc and stainless steel. With threats of more aggressive anti-dumping measures and tariffs from the Trump Administration, pricing for metals is likely to see higher prices in 2017.

Similar double-digit increases have been getting through the marketplace for wallboard, insulation and steel studs. Reports of increases of between four and six percent for ready-mix concrete have been received in St. Louis, Alabama, Utah, and Wyoming, with concrete contractors noting that the increases were the first in at least five years.

The IHS Markit and the Procurement Executives Group (PEG) monthly survey of purchasing activity was again above neutral and trending higher. The IHS PEG Engineering and Construction Cost Index for February came in at 55.2, after a reading of 57.7 in January and 53.3 in December. January's reading was the highest since September 2014. A slight decline below neutral in the subcontracting index pulled down a 58.0 response for materials. Also notable in the index was the fact that increases were noted in ten of the 12 categories surveyed.

The Bureau of Labor Statistics (BLS) reported February 15 that the producer price index (PPI) for final demand in January increased 0.5 percent from December and 1.6 percent year-over-year from January 2016. Final demand includes goods, services and five types of nonresidential buildings that BLS says make up 34 percent of total construction. The PPI for final demand construction rose 0.3 percent for the month and 1.3 percent for the year. Materials that had significant monthly or annual price changes include asphalt paving mixtures and blocks, up 7.5 percent for the month; steel mill products, up 1.6 percent from December and 11 percent since 2016; copper and brass mill shapes, which jumped more than 20 percent year-over-year; and diesel fuel, which spiked 35 percent since January 2016.

One other notable trend emerging from the BLS data is divergence between the input costs for construction and the price of buildings. BLS measures five categories of buildings – industrial, school, healthcare, office and warehouse – which had year-over-year increases of between 0.8 and 2.0 percent. At the same time, however, the PPI for inputs to construction rose 3.2 percent year-over-year, with materials rising 3.1 percent and labor costs increasing 3.8 percent. The trend for the materials and labor inputs is accelerating but the trend for the building indexes is relatively flat. This suggests that pressure on contractors' profits is increasing. Such a squeeze rarely extends beyond a few quarters before cost increases are passed onto owners. BG

PERCENTAGE CHANGES IN COSTS	Jan 2017 compared to		
	1 mo.	3 mo.	1 yr.
Consumer, Producer & Construction Prices			
Consumer price index (CPI-U)	0.0	0.0	2.1
Producer price index (PPI) for final demand	0.5	0.7	1.6
PPI for final demand construction	0.3	0.3	1.3
Costs by Construction Types/Subcontractors			
New warehouse construction	0.4	0.4	2.0
New school construction	0.5	0.3	0.8
New office construction	0.5	0.5	1.9
New industrial building construction	0.3	0.2	0.8
New health care building construction	(0.4)	(0.5)	0.9
Concrete contractors, nonresidential	(0.1)	0.0	4.1
Roofing contractors, nonresidential	0.2	1.1	2.0
Electrical contractors, nonresidential	0.0	0.1	(0.8)
Plumbing contractors, nonresidential	0.4	0.2	0.2
Construction wages and benefits	N/A	0.9	2.1
Architectural services	0.3	(0.2)	1.2
Costs for Specific Construction Inputs			
#2 diesel fuel	2.2	1.1	34.8
Asphalt paving mixtures and blocks	7.5	7.3	(0.9)
Cement	2.1	1.1	3.0
Concrete products	0.4	1.1	3.0
Brick and structural clay tile	(0.6)	0.2	0.0
Plastic construction products	0.1	0.1	0.9
Flat glass	0.2	0.4	2.2
Gypsum products	0.8	1.0	2.7
Lumber and plywood	(0.4)	(0.5)	3.7
Architectural coatings	(0.2)	(0.2)	0.9
Steel mill products	1.6	1.7	11.4
Copper and brass mill shapes	(1.1)	12.1	19.9
Aluminum mill shapes	0.9	3.2	4.9
Fabricated structural metal	0.1	(0.9)	2.7
Iron and steel scrap	14.8	47.1	69.6

Source Bureau of Labor Statistics, Updated February 15, 2017
Compiled by Ken Simonson, AGC Chief Economist

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PROJECT:
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CONTRACTOR:
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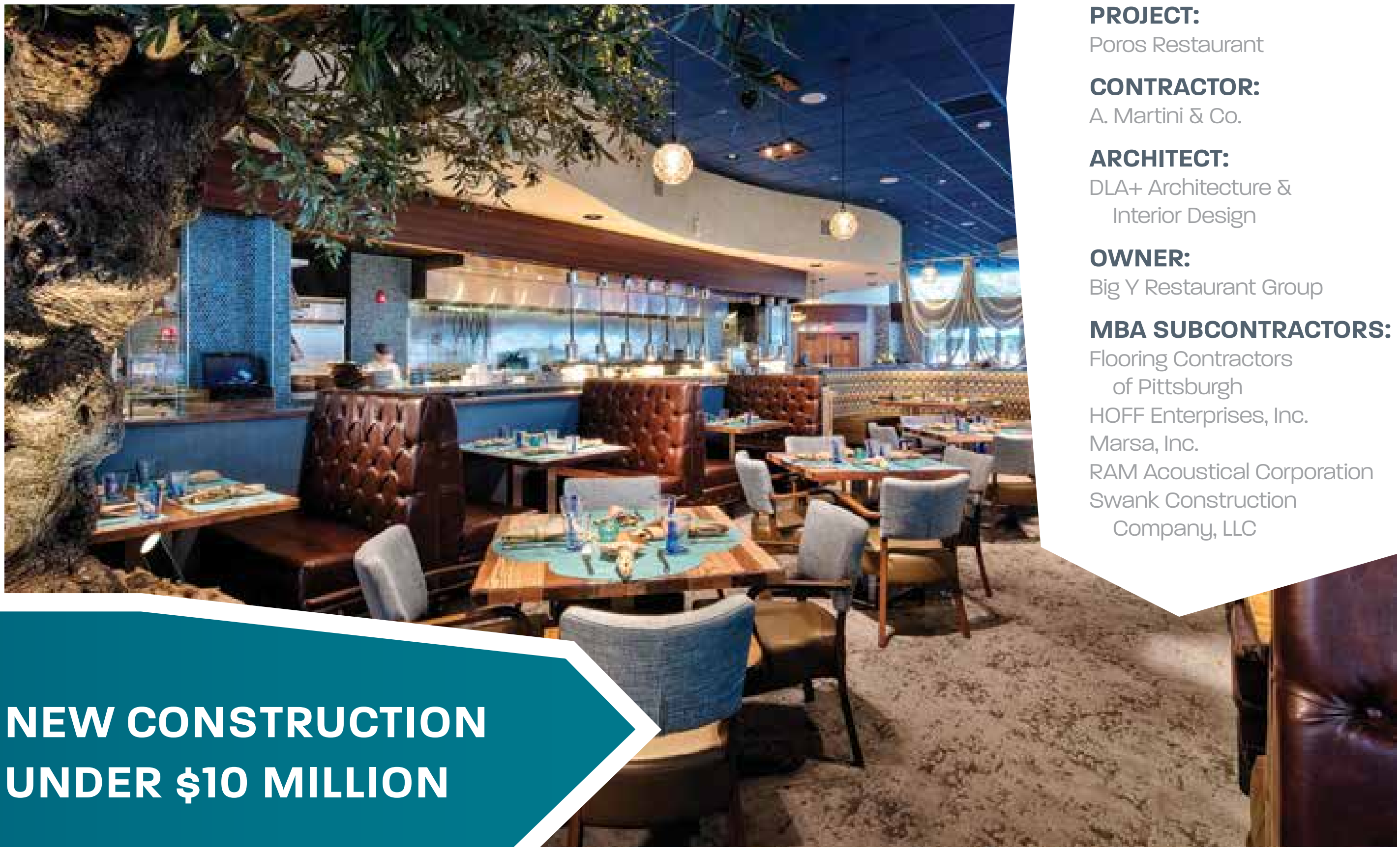
ARCHITECT:
Arquitectonica

OWNER:
Millcraft Investments

MBA SUBCONTRACTORS:
A.C. Dellovade, Inc.
Amthor Steel, Inc.
D-M Products, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
Marsa, Inc.
Massaro Industries, Inc.
Maxim Crane Works, LP
Mosites Construction Co.
Noralco Corporation
Phoenix Roofing, Inc.
Richard Goettle, Inc.
Scalise Industries Corporation

NEW CONSTRUCTION OVER $25 MILLION



NEW CONSTRUCTION UNDER $10 MILLION

PROJECT:
Poros Restaurant

CONTRACTOR:
A. Martini & Co.

ARCHITECT:
DLA+ Architecture & Interior Design

OWNER:
Big Y Restaurant Group

MBA SUBCONTRACTORS:
Flooring Contractors of Pittsburgh
HOFF Enterprises, Inc.
Marsa, Inc.
RAM Acoustical Corporation
Swank Construction Company, LLC

PROJECT:
UPMC Presbyterian University Hospital Renovations - Phases 1, 2, 3, 4

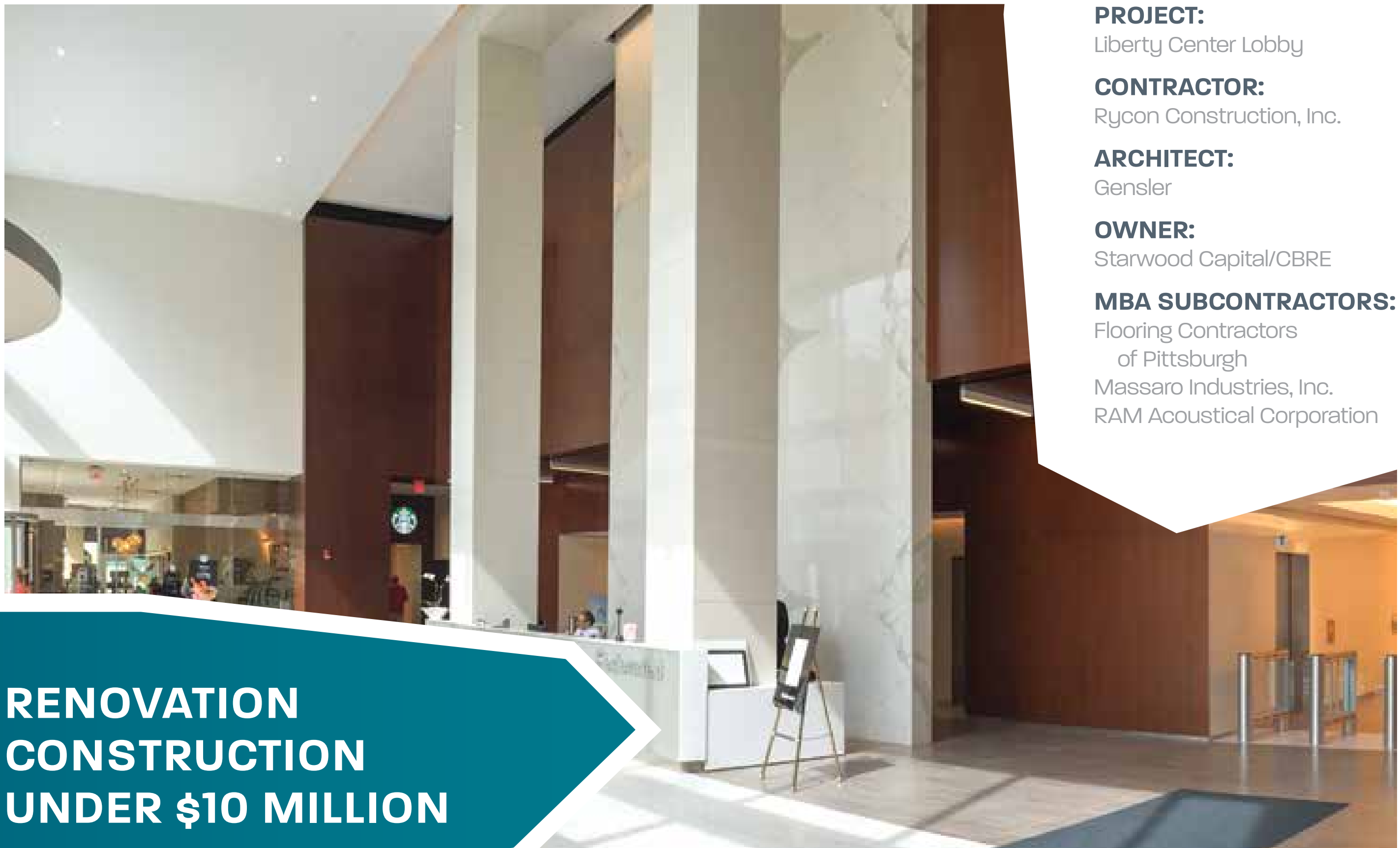
CONTRACTOR:
PJ Dick Incorporated

ARCHITECT:
Harley Ellis Devereaux

OWNER:
UPMC

MBA SUBCONTRACTORS:
Flooring Contractors of Pittsburgh
G. Kidd Inc.
Lighthouse Electric Company, Inc.
Massaro Industries, Inc.
Master Woodcraft Corporation
McKamish, Inc.
Richard Goettle, Inc.
SSM Industries, Inc.
Specified Systems, Inc.
T.D. Patrinos Painting & Contracting Company
Wayne Crouse, Inc.
Wellington Power Corporation
Wyatt Incorporated

RENOVATION CONSTRUCTION BETWEEN $10 AND $30 MILLION



PROJECT:
Liberty Center Lobby

CONTRACTOR:
Rycon Construction, Inc.

ARCHITECT:
Gensler

OWNER:
Starwood Capital/CBRE

MBA SUBCONTRACTORS:
Flooring Contractors of Pittsburgh
Massaro Industries, Inc.
RAM Acoustical Corporation

RENOVATION CONSTRUCTION UNDER $10 MILLION

PROJECT:
Carnegie Mellon University -
Jared L. Cohon University Center

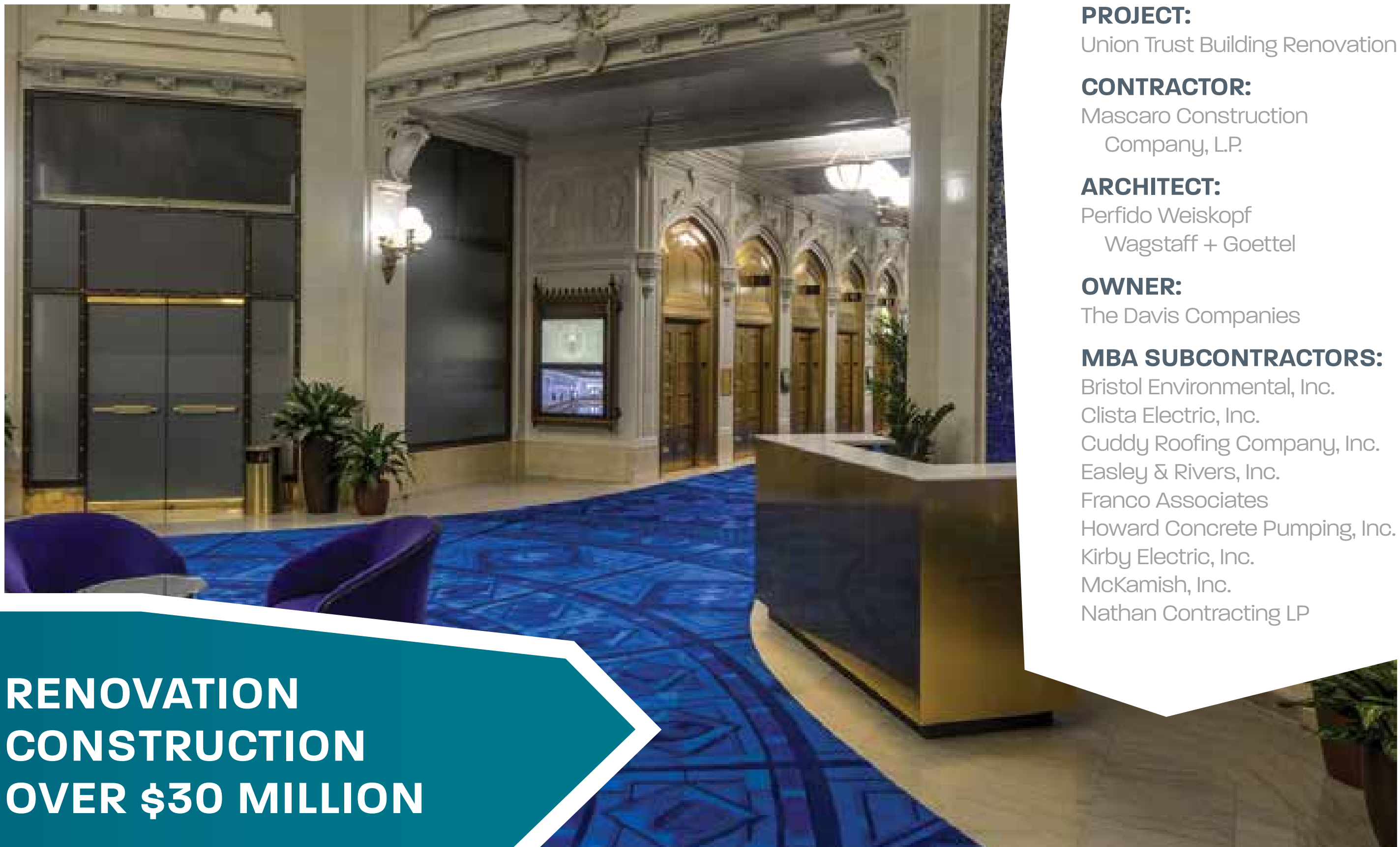
CONTRACTOR:
Mosites Construction Company

ARCHITECT:
CannonDesign

OWNER:
Carnegie Mellon University

MBA SUBCONTRACTORS:
Ferry Electric Company
Franco Associates
J.J. Morris & Sons, Inc.
Kalkreuth Roofing & Sheet Metal, Inc.
Massaro Industries, Inc.
Noralco Corporation
Specified Systems, Inc.
W.G. Tomko, Inc.

NEW CONSTRUCTION BETWEEN $10 AND $25 MILLION



RENOVATION CONSTRUCTION OVER $30 MILLION

PROJECT:
Union Trust Building Renovation

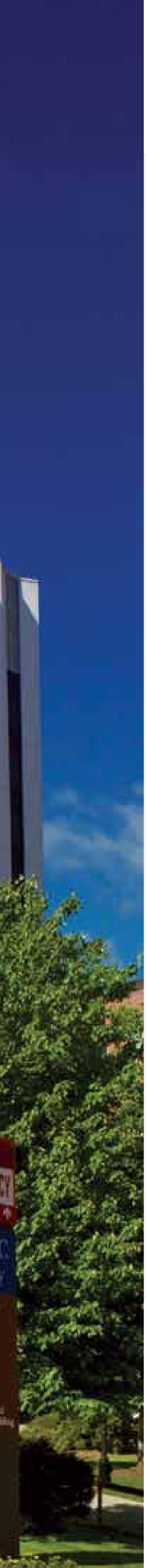
CONTRACTOR:
Mascaro Construction Company, L.P.

ARCHITECT:
Perfido Weiskopf Wagstaff + Goettel

OWNER:
The Davis Companies

MBA SUBCONTRACTORS:
Bristol Environmental, Inc.
Clista Electric, Inc.
Cuddy Roofing Company, Inc.
Easley & Rivers, Inc.
Franco Associates
Howard Concrete Pumping, Inc.
Kirby Electric, Inc.
McKamish, Inc.
Nathan Contracting LP

UPMC Mercy will be the site of the new center for ophthalmology, one of the few major expansion projects planned for an urban hospital.



HEALTHCARE 2017: THE TRENDS DRIVING CONSTRUCTION

feature

Since March 9, the American Health Care Act has been one of the dominant stories in the news. The fulfillment of the Republican promise to repeal President Obama's Affordable Care Act (ACA), this new health care legislation is intended to reform the 2010 ACA and reel in the rising costs to insurers, providers and the insured. Whether the American Health Care Act succeeds in passing as legislation or in its intended purpose, its existence adds uncertainty to an industry that was just beginning to adjust from a period of uncertainty.

"We have adapted and got to a place where we are comfortable with the challenges of the Affordable Care Act," says Dan Laurent, vice president of internal and external communications for Allegheny Health Network (AHN). "Now we are faced with the uncertainty of what will stay or will the administration blow the whole thing up."

Healthcare as an industry is important to the economy because it creates jobs and opportunity. It can also have a chilling effect when patients spend more of their dollar on doctors and medicine. For Pittsburgh, healthcare is one of the pillars of the economy. It's the "meds" in the "eds and meds" recipe for Pittsburgh's much-celebrated economic transformation. Healthcare is also enormously important to the construction industry's economic well being in Pittsburgh. The response to the uncertainty about healthcare's future over the past few years has been a dramatic cut in capital spending on hospitals and that has kept the construction economy from enjoying Pittsburgh's transformation more fully.

Contractors, architects and engineers in Pittsburgh have developed exceptional competency in healthcare construction as a result of the emergence of that sector. Over the past decade, the strength of Pittsburgh's healthcare industry has been a draw for firms not located in Pittsburgh to open offices here. Coming into 2017, there was great enthusiasm about the healthcare sector, which was planning to increase investment in physical plant across the board. Rarely have there been so many major projects in the pipeline by virtually every hospital system, in virtually all the markets they serve.

Will the loud debate about healthcare legislation dampen those plans? While that possibility certainly exists, there is little evidence that what Washington does over the next six months will impact the strategies in place. In fact, the construction plans of UPMC, Allegheny Health Network, St. Clair Hospital, Excela and others are in response to overarching trends that transcend the shifting sands of national politics.

"Healthcare is very market- or community-dependent. While everyone talks about a national healthcare policy, healthcare is very local," notes Harold Miller, president and CEO of the Center for Healthcare Quality and Payment Reform. "Healthcare in Pittsburgh is very different from healthcare in Cleveland or Los Angeles or wherever."

You only need to look at the activity of the past five years to validate that theory. The dispute between UPMC and Highmark has influenced Pittsburgh's hospital construction market far more than anything Washington has concocted. The ACA may have moved the patient into a more prominent role in the process but Pittsburgh's healthcare providers had been revamping its facilities towards a more patient-centered model already. The surge in construction spending that will occur from 2017 to 2020 is more about how the Pittsburgh region's providers see their future.

THE IMPACT OF AFFORDABLE CARE ACT (OR ITS REPLACEMENT)

Even as the debate about replacing or amending Obamacare rages on, its impact on the healthcare landscape continues. When ACA rolled out and open enrollment began, there were a number of concerns that the legislation would have the opposite effect from its stated intent. In part because of technology problems initially and reluctance from users as the ACA kicked in, hospitals saw declines in admissions and patient flow. There were worries that patients as consumers would choose not to have pricey imaging done or would avoid other early diagnostic procedures because they were too costly. Those kinds of concerns have largely faded. But what has remained a concern from day one is now a fact of life: Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys matter.

The HCAHPS survey was not new to ACA. In 2002, the U.S. Center for Medicare and Medicaid Services (CMS) partnered with the Agency for Healthcare Research and Quality to develop the first national standardized, publicized survey of patient perspectives on their care. The 27-question survey was endorsed by Bush Administration agencies and in 2007, providers who participated with the Inpatient Prospective Payment System for their annual reimbursements were docked two percent if they failed to collect, submit and publicly report the HCAHPS data. The ACA, however, included HCAHPS data among the measures to be used to calculate value-based incentive payments to providers. Since discharges in October 2012, the patient's perception of the experience has directly impacted hospital revenues.

There was some synergy or synchronicity between this new emphasis on patient experience and the growing influence of evidence-based design. Based upon Roger Ulrich's groundbreaking 1984 research about the impact of environment on patient recovery, architects had done numerous studies that concluded that daylight, views of green space,

Facility	Estimate Cost
UPMC South Hills	$150-180 million
Allegheny Health Network St. Vincent	$115 million
UPMC Hamot	$111 million
UPMC Mercy Opthalmology	$100-200 million
WVUH Children's Hospital	$100-150 million
St. Clair Hospital Expansion	$75 million
UPMC Jameson Upgrade	$75 million
UPMC Shadyside/Presbyterian Patient Upgrade	$55 million
UPMC South 20-Bed/Mixed Development	$40-80 million
AHN Allegheny Valley Hospital	$25 million
UPMC/WCA Hospital Jamestown	$25 million
UPMC Ebensburg Outpatient	$20 million
Excela Health Ambulatory Center Latrobe	$20 million
Butler Health System, Neshannock MOB	$20 million
Butler Health System, Shenango MOB	$20 million
Excela Health Greensburg Orthopedic Center	$20 million

Pittsburgh hospitals have a pipeline full of major construction projects planned for 2017-2018.

quiet and other comfort factors could reduce pain medication and shorten recovery times by days. With the ACA's weighting of the HCAHPS survey, factors influencing patient satisfaction that related to the building had to be considered in the same way other qualitative factors were during design.

With patient satisfaction as a primary consideration for performance, the days of the brilliant physician with poor bedside manner may be numbered. Hospitals now have to judge "best outcome" through more than one lens.

"Patients describe good outcomes differently than how a doctor might," assures Arthur Scully, vice president of development and communications for Magee Research Institute. "For patients a good outcome is if people treated them nicely. It was quiet at night. The food was good. Doctors would talk about improved range of motion or less discomfort, how the patient's health was improved. But the patients are the ones who fill out the survey forms."

"As patients become more consumers of healthcare, we as designers are more aware of the patient experience," says Mary Frazier, AIA, principal at EwingCole. "That experience starts at home with how easy it is to make the appointment and continues to how easy it is to get to the appointment, right through the care they receive at the facility. We're not only providing the best patient care but also the best experience."

Casual observers have seen this emphasis on patient experience in superficial measures like brighter colors, Wi-Fi, bigger TVs or changing the hospital cafeteria into a more food court setting. For architects, the bigger challenges have been to go deeper into the functional aspects of the hospital that could impact patient satisfaction.

"The trends we continue to see are the emphasis on providing a more hospitality-based design," explains David Wells, principal at Radelet McCarthy Polletta. "We look at it not only from a design basis but also from a facility basis, how the facility works."

Wells points to a recent project renovating the fourth floor of the Hillman Cancer Center. Instead of typical space planning, he says the design process focused on how the patient would best experience the difficult process of receiving cancer treatment.

"Patients came to a waiting room and then got tested. They came back to the waiting room and got more tests. Back to the waiting room before seeing the doctor for their checkup," Wells relates. "On the fourth floor we thought about how the patient might go through the process to minimize the waiting. We designed a concierge-like lounge where the patient stayed throughout the visit. A tech comes in to draw blood and sends it to the lab first so the results are available to the doctor. Then the admissions person comes in to get the patient's information."

This concierge approach should streamline the process, especially if it allows information about the patient to be available to an oncologist prior to a consultation and treatment. That should shorten the visit. It's also more likely that locating patients in a comfortable setting while the caregivers come to them will improve the experience. That's 180 degrees from the time-honored process of moving patients from room to room while waiting.

Focusing more on patient experience has changed the way buildings are designed and the process of design itself. As the real estate becomes part of the toolbox for satisfying patients, the conversations during design have also changed. One of IKM's partners, Mike McDonnell reports that his early meetings with clients often include representatives from the hospital's marketing department for the first time in his career.

"Healthcare clients here are kind of at a crossroads. They are beginning to ask us questions that are different than before," McDonnell reflects. "Before the questions were about consistency and about tried and true models of color selection and space organization. They are beginning to ask questions about design strategies that change traditional ways of doing things. Where do you begin the process of managing patient expectations and bringing them into the system? We're seeing a lot more linkage from a messaging standpoint between what their brand component is and what the physical space looks like. They understand the value of bringing those things together."

Perhaps the most disruptive effect of this emphasis on patient experience has been the acceleration of a longer-term trend towards distributed care. Technology and medical advancements have improved surgery and other acute procedures, allowing more patients to avoid admission. That trend has benefits in controlling infection and readmission, as well as pushing costs lower. As a function of patient satisfaction, moving the care closer to the patient is another strategy that wins with the ACA.

"ACA is moving healthcare towards the consumer," concludes Scully. "UPMC is focused on where people want to receive care and how they want to receive it. No one wants to come into Oakland."

UPMC isn't alone in that observation. AHN faces similar feelings from its patients about the North

Excela's 125,000 square foot Latrobe ambulatory center will offer a broad spectrum of non-surgical care in a medical office environment. Photo by Eddie Davis, E3Aerial.

Side. The same sentiments exist for urban hospitals in every major city. For any number of reasons, more capital is being invested now to move healthcare closer to where the patients live across the U.S. And as the healthcare systems in Pittsburgh ramp capital spending much higher in the coming three years, the majority of that investment will be away from the core urban hospitals.

THE "DOC-IN-A-BOX" TREND

The cringe-worthy expression, "doc-in-a-box," is used to describe a fast-growing segment of the retail medical market. The broad definition of the phrase is a doctor who works in a outpatient-like clinic. For the patient as consumer, a doc-in-a-box has come to mean something a bit narrower. This new alternative version of primary care giver is bifurcating into separate business models that are influencing facilities.

Time and convenience are the main drivers of this model of healthcare delivery. Patients for doc-in-a-box treatment are usually (ideally) those with minor but irritating or painful health problems that don't require acute treatment. Patients with more patience could certainly wait for their primary care physician (PCP) to open a time to observe and treat their poison ivy or severe sore throat but the discomfort demands more urgency. At the same time, neither of those ailments – or countless others – merits the attention and facilities of an emergency room, which has historically not always provided the swiftest response. So, an alternative solution developed for those with the means or insurance to pay for it.

It's been most of a decade since the urgent care model has been flourishing as an alternative to the emergency room or the PCP waiting room. Morgantown-based MedExpress has developed dozens of its roughly 5,000 square foot urgent care centers around metropolitan Pittsburgh. In their wake, UPMC created a network of its Urgent Care centers and Allegheny Health Network had dotted the region with its Express Care facilities.

Patients are stuck with the possibility of a surge in activity at these centers but, by and large, the suburban urgent care center operates with a minimal wait time. Because the spectrum of services offered at an express care center are limited to those not requiring hospital acuity, patients aren't caught in the triage hierarchy of an emergency room. Come in with a scratched cornea and you'll leave the MedExpress with eye drops and a prescription within an hour, usually less.

At the retail level, the doc-in-a-box can be even quicker or more efficient. In most major cities, routine testing procedures like strep throat testing can be done at the local CVS or Walgreen's, with follow up coming within minutes. For a patient with a sore throat that isn't a strep infection, spending a few bucks to find out that hot tea and throat lozenges are all that is needed to deal with the condition is well worth it. And for those who learn that the problem is more serious, the time invested with a PCP or emergency room doctor is also merited.

Whether the alternative is a retail pharmacy or an emergency care clinic, the rise of this form of medicine has already impacted the hospital physical plant. Without the low acuity alternative, hospitals were already beginning to look at ER design with an eye towards managing the patient flow better. Emergency rooms treat patients with serious conditions – deep cuts, high fevers, severe nausea, etc. – that can be remedied without admission; however, the ER serves a significant business role for a hospital in that some share of those serious ailments require admission for treatment. ERs are feeders for the hospitals. But while there are patients who require examination before determining the level of acuity of their condition, much of the triage is straight-forward.

The modern ER has been redesigned so that low-acuity patients were in a separate queue from those that would likely end up admitted. In markets where there is little or no urgent care presence, it is in the hospital's best interest to create an emergency room experience that is as convenient – meaning quick and infection free – as possible.

The end result of the current trend could leave hospitals with providing acute care and surgery, allowing for re-purposing existing physical plant.

Doc-in-a-box is also used to describe a more stripped down version of the outpatient clinic that is being developed in response to the current healthcare environment. As the trend towards distributed care giving expands, there are factors that have changed how these kinds of facilities are designed in fairly short order.

When Allegheny Health Network's Health and Wellness Pavilion opened in Wexford in October 2014, it was designed to anticipate the demands of patients in a new healthcare environment. Patients could receive extensive treatment and testing, research their ailments, and get therapy all under one roof; however, the sands of the market shifted almost as soon as the Pavilion opened.

One of the significant changes impacting wellness pavilions like AHN's in Wexford is the change in reimbursement criteria that accompanied the 2015 Bipartisan Budget Act. In attempt to control costs, CMS reduced the reimbursements paid to hospitals operating outpatient centers that are physically separated from hospital campuses. Previously, providers have argued that the higher overhead associated with hospitals necessitated that reimbursements for outpatient services provided by hospitals should be higher than those provided by physicians or independent systems. That changed January 1. CMS is pressing for site neutrality in its reimbursements and is now paying for outpatient services at the lower rate, which is 55 percent of the hospital-based rate.

There are exceptions, which still favor hospitals. Several of the exceptions have to do with facilities that were operating or partially under construction when the Budget Act was passed in Fall 2015. (That exempts AHN's Wexford pavilion for now.) Other exceptions allow outpatient facilities within 250 yards of a hospital to be considered hospital-based or exempt those that were forced to move away from campuses due to "extraordinary circumstances." These exceptions are not cast in stone, however, and new services delivered in hospital-based outpatient facilities will not be exempted from the lower reimbursement rate.

The decision on reimbursements is part of a move to push care to lower-cost facilities. The Medicare Payment Advisory Council is advising that lower-risk procedures performed at hospital-based facilities be reimbursed at the lower outpatient rates, although hospitals are arguing against this.

At the root of this re-jiggering of reimbursements is a push to move care that does not require the higher-acuity facilities of a hospital to be provided at facilities with a lower operating cost.

"Because of the costs in large urban hospitals there is more discussion about what should be built on campus versus off campus where the real estate can be used more efficiently," says Mary Frazier. "Hospitals are thinking of themselves as systems, using real estate to deliver less acute, less critical care in facilities that are cheaper to operate."

Controlling or reducing costs will be the key to creating a healthcare system that can meet the mutually exclusive demands of providing more care to more people at an affordable cost. There are a number of systemic problems that need solutions that are beyond the purview of the physical plant but the drive to contain costs is manifest in the decisions about construction. Key among those is the investment in less acute facilities that are located closer to patients.

"UPMC East was the beginning of the initiative to move healthcare to the community level," asserts Mike Kuchera, regional director for EwingCole in Pittsburgh. "Patients gave feedback that they very much disliked driving to Oakland. They found it very stressful."

The planning and construction of UPMC East took place as the ACA was being debated and rolled out, however, and at 156 beds is not the kind of lighter facility being planned today. Opened in July 2012, UPMC East was also at least partially a competitive response to the impending split between UPMC and Highmark. In today's market, the same could well be said about UPMC South Hills investments and the investments being made in Erie and Central PA by both major health systems. The difference in how those investments are being executed tells more about market conditions in 2017 and beyond.

Right now, there are three very similar facilities under construction in Western PA that illustrate the difficult economics of providing healthcare. In Ebensburg and Hampton Township, UPMC is under construction with ambulatory centers of 46,500 square feet and 44,000 square feet respectively. The new facilities will serve to consolidate a number of physicians' practices that UPMC has acquired and will offer care that runs the gamut of ambulatory services. Built for roughly $300 per square foot, these facilities are in the same ballpark as Children's Hospital South. In Latrobe, Excela Healthcare is building a larger outpatient center. At 125,000 square feet, Excela's new center will have more medical office and lower acuity care space than the UPMC facilities. That allows Excela to develop the center for less than $200 per square foot.

Those kinds of numbers pale in comparison to the cost of a new full service hospital. At lower reimbursement rates, outpatient centers like those under construction will be the right fit for care and treatment that doesn't need the support of a full hospital. Designing buildings that are energy-efficient, with tight envelopes and high-performance HVAC and electrical systems also work to keeping the costs down after construction.

"There's also a focus on performance," observes McDonnell. "There's a real understanding from the healthcare institutions for the building to perform well and to perform well over its life cycle."

WILL THE HOSPITAL SURVIVE?

Whether it is driven by patient satisfaction concerns or cost containment, the trend towards distributed care is real. Should the trend hold to its logical conclusion, it's not difficult to envision the future of medicine with fewer major hospitals. Pittsburgh is an example of how that trend is playing out. It wasn't many years ago that UPMC was planning to fill in the hole where Children's Hospital was on Fifth Avenue with a new 1,000-bed flagship hospital to replace or reorganize its Presbyterian, Montefiore and Eye and Ear facilities. That plan shrank to 500 beds and eventually went on the shelf. It's hard to imagine such a hospital being built now. UPMC's current capital plans underscore how much things have changed.

After a few years of reduced capital spending UPMC plans to boost its spending to more than $300 million over the next few years. Much of that capital budget will be invested in the community hospitals UPMC has acquired or merged into its system. The healthcare provider announced plans to spend $75 million at Jameson Hospital in New Castle and $111 million in a new tower at Hamot in Erie. In addition to the outpatient center in Ebensburg, UPMC is nearing completion on the 90,000 square foot Logan Medical Center located between Altoona and Hollidaysburg as part of its investment in UPMC Altoona Hospital. Within the suburban Pittsburgh footprint, UPMC is reported to be developing plans for a 20-bed mini-hospital on the Route 51 corridor in southern Allegheny County and a $150-$180 million hospital near I-79 in South Fayette. Its recently-announced 200,000 square foot ophthalmology facility at the Mercy Hospital campus Uptown represents UPMC's only major project in the city.

Allegheny Health Network has also upped its spending, reportedly to $150-$160 million for the coming year. AHN continues to need significant investment in modernizing infrastructure but it will also be directing some of its capital to community facilities, committing $115 million to the St. Vincent Hospital in Erie and roughly $10 million each for perioperative services at Forbes Regional and orthopedic care at the former Pool City space in Hempfield Township. The system is also investing $25 million in its Allegheny Valley Hospital in Natrona Heights.

Two other major construction projects in planning involve two different health systems competing for patients. West Virginia University Hospital is completing its South Tower expansion and looking at an investment of more than $100 million in its

Children's Hospital. At the other end of the spectrum from a quasi-public teaching hospital, St. Clair Memorial Hospital is planning a major expansion. The $75 million project will include a central plant, patient tower and a reconfiguration of its existing access.

Urgent care has moved from the emergency room to the retail center.

This wave of major hospital projects would seem to signal that centralized hospitals are on their way out but most of the projects are programmed for making the facilities more efficient or function differently, rather than expansion. With ambulatory care on the rise, hospitals are being reconfigured to focus on providing care that is best suited for large facilities. Acute care and riskier procedures are better suited to the hospital environment. Healthcare providers who have competency at those services are trying to distribute similar quality care into the communities.

"Our clients recognize they have world-class facilities but realize they are in difficult settings for patients to reach," notes Frazier. "They are trying to reach patients who don't want to travel to urban hospitals but want the same care as they get in major urban hospitals. Outpatient centers maximize patient loyalty to the institutions and serve as feeder for the critical procedures that are only delivered at main hospitals."

Harold Miller is among those who see a cloudy future for the core urban hospital campus. It's his opinion that the market conditions will pressure more procedures to be done on an outpatient basis. Miller points out that waiting for the market forces to choose winners and losers can be costly.

"Hospitals are very big expensive buildings and having two where there should only be one is great for construction but bad for healthcare," he says.

While the long-term trend is towards distributed healthcare, demographics offer a shorter-term respite for hospitals. A major cohort of the population is aging. Baby Boomers have demonstrated an appetite for medical solutions to solve the maladies of aging. For all the momentum for ambulatory care, 41 percent of the commercial insurance cost increases between 2009 and 2016 was spent in hospitals. Hospitals trying to reconfigure their facilities and reduce utilization will find that the aging population will be absorbing those underutilized beds over the next 15 years. Of course, hospitals that are expanding capacity now in advance of that demographic wave will find an even bigger gap when Boomers go from aging to dying.

It appears the key will be flexibility in building and managing the healthcare physical plant. Should the Trump Administration succeed in replacing the Affordable Care Act with a new system for healthcare, it will mark the fourth major change in two decades. Only one of those healthcare reforms managed to dramatically impact the costs of providing care.

"People are still going to come to the hospital and the emergency room who can't afford care and the state's going to have to figure out how to pay for that," muses Scully. "HMO's worked at controlling costs but no one liked it when the PCP was the gatekeeper."

One major reason that HMO's worked was that many of the illnesses that patients had got better while the patient waited for approvals from the primary care physician or insurer. Patients have become accustomed to getting treatment again rather than waiting for an infection or virus to run its course. But the HMO model kept patients out of hospitals, driving costs lower by reducing how often the healthcare system was utilized. Any future solution that works the cost side of the equation will also reduce utilization, which makes planning for the facilities of the future just that much more uncertain. Mary Frazier suggests that focusing on a balance between inpatient

Children's Hospital South took high-demand specialized care into a suburban setting, creating an environment where most pediatric medicine could be delivered in a less costly environment.

and outpatient care will improve flexibility and make it easier to respond to the next change.

"Main hospitals – instead of 200 or 300 beds – are building 20- to 30-bed facilities with an emergency room and operating room but with the ability to grow further down the line," she concludes.

Having the flexibility to grow (or shrink) appears to be the key for healthcare systems in an environment that remains uncertain. The trends in demographics and research suggest that there will be more people needing care over the next two decades and more demand for procedures and treatment that extends or improves life. The missing piece of the puzzle remains the means by which this medicine is funded.

The history of America shows that we tend to unite behind solutions that deal with problems of society at large. As healthcare is currently delivered in the U.S., there is likely to be an existential crisis for hospitals in the coming decade, perhaps sooner. Pittsburgh's new economy is no longer reliant upon one dominant industry for its vibrancy, but the healthcare sector plays a significant role and disruptions in healthcare will be disruptions for Pittsburgh. It's comforting to know that the brightest minds in Pittsburgh's healthcare industry have been working to envision what the future of healthcare in the U.S. will be and are positioning their systems to be there already.

For bricks and mortar, the healthcare sector is on the upswing. Even if the future of healthcare looks a bit rocky, construction will play a role in how that future unfolds. BG

Two distinct building masses separate clinical services from public spaces. Photo by Adam Warner, IKM Inc.

CHILDREN'S HOSPITAL OF PITTSBURGH OF UPMC SOUTH

When Children's Hospital of Pittsburgh opened its flagship new hospital in Lawrenceville in 2009, Pittsburgh got to see the state of the art in pediatric care. Its colorful exterior and interior signaled a change in approach to children's medicine, a recognition that the environment plays a key role in healing. The clinical response to an illness in a child is enhanced when fun and family can distract the patient; and providing ways for the family to manage the stress of supporting a sick child is a critical therapeutic component to providing care.

The demand for pediatric medicine extends to the suburbs and small communities in Western PA that are removed from the center of Pittsburgh as well. University of Pittsburgh Medical Center found itself with such growth in demand in the South Hills that it needed to respond in a significant way. In 2012, UPMC gave the green light to the construction of a new facility on Route 50 in South Fayette Township, just west of the I-79 Bridgeville exit.

"Children's Hospital of Pittsburgh chose to build a new facility because the former Bethel Park location was undersized and patient volume was expanding at a high rate each year," says Roger Altmeyer, senior director of project development and construction for UPMC. "This Bethel office was difficult for some patients to find and because Children's was drawing patients from all over the South Hills, Greene and Fayette counties, and West Virginia, this became problematic. The South Fayette location was a good site, in a growing community, with great access to I-79."

UPMC planned to use the new facility to create a different model of care than was the norm in suburban medicine. The intent was to unite a number of private pediatric practices from throughout the South Hills and to support those primary care practices with resources – like imaging, testing or physical therapy - that aren't usually in their offices. The new hospital would house various specialists too. While higher acuity cases and surgery would still be directed to the Lawrenceville campus, the Children's South facility was intended to offer integrated services in one location.

"Children's South is a comprehensive pediatrics-only outpatient center and includes a new home for Children Community Pediatrics and other specialty services including gastroenterology, pulmonology, endocrinology, allergy, cardiology, behavioral health, imaging, and pediatric-based blood draw," says Jim Froehlich, project manager for UPMC.

The intended comprehensiveness of Children's South offered a programming challenge to architect IKM Inc., which Froehlich says was chosen because of its portfolio of other successful outpatient facilities throughout the region. In addition to the challenge of fitting ten pounds of program into a five-pound bag, there was an additional design challenge that related directly to the success and iconic architecture of the main Children's Hospital. IKM met that challenge through the varied use of color.

"One of the challenges that was presented to us by UPMC was to help extend the brand of Lawrenceville out into the rest of the community, without just physically copying what's there," recalls Michael McDonnell, partner at IKM Inc. "We thought long and hard about that important challenge. If we just picked up the Lawrenceville campus, made it smaller and transplanted it into other locations, we would diminish the impact of the Lawrenceville site, which was not at all what we wanted to do."

"For us, the application of color had to do with identifying important elements of the plan, where you go to register; where you go to circulate; how you understand where you are in the building," he continues. "There is a color theme associated with each floor as a function of wayfinding. We tried to stay away from the obvious kinds of child-oriented artwork and form-making and really use color in the way in which an artist uses color to express light and shadow and intimacy."

McDonnell says there was also a conscious effort to use the walls and floors as base colors for the interior palette, letting more neutral solid colors heighten the contrast from the bolder colors and artwork that was used.

"There are ways that color is used inside that bring the building all together," asserts Brandon McKee, project manager for Rycon Construction Inc., the project's general contractor. "There are five or six colors of resilient flooring cut at multiple radiuses. The flooring contractor probably spent more than they intended but they had guys on the floor with calipers getting it right.

"One of the challenges that was presented to us by UPMC was to help extend the brand of Lawrenceville out into the rest of the community, without just physically copying what's there."

"Similarly, in the casework there is a translucent one-inch polycarbonate material, called LightBlocks, that was used as a directory feature at the elevator and as a wall panel instead of drywall in the waiting room. The panel is lit from the top. It extends from the top of the casework to the ceiling and is more attractive and distracting for the families that are waiting."

The size limitation of an outpatient facility presented a challenge for circulation and the segregation of patient experience from administrative activities. To solve that problem, IKM designed a wedge on each floor that is the patient waiting and registration area. As a hub for each floor, patients can check in and wait while the necessary clinical and support staff come to that space to find the patient.

"It meant that we could predictably land patients and families in an area and control how they moved back into the clinical spaces in a way that allowed staff to do things without getting in the way of patients or making patients feel uncomfortable," McDonnell notes. "That really helped us achieve [control] without having all of the extra space associated with that model."

As designed, the facility is 60,000 square feet and made of two distinctly different structures. On the southeast portion of the site is a four-story brick rectangle, in which the clinical spaces are laid out efficiently. That portion of the hospital extends behind the building's main architectural feature, a four-story wing that is at an angle to the clinical spaces. This portion of the structure is wrapped in glass curtain wall and metal panels of varying hues of blue that calls to mind the patina of the copper on the exterior of the flagship Children's Hospital. As a suburban medical facility, Children's South presents itself architecturally to take best advantage of the length of the site along Route 50. The orientation of the building also served a strategic purpose.

"There was an early study done to get through land development approval and one of the first things we asked was if that was the orientation of the building that UPMC wanted," says McDonnell. "We had this plan concept that if we could get the waiting space organized around some geometric form, then maybe the rest of the building would evolve in a way that would help us. It also meant that we could spend money on this piece that we thought would be more important and then back-off the finishes in the other portion of the building."

The northern-facing orientation also meant that the waiting spaces could be flooded with light but not the uncomfortable glare that comes with a southern exposure.

The front elevation of Children's South is dominated by a composition of multi-colored metal panels that take a cue from the copper on the exterior of Children's Hospital in Lawrenceville. Photo by Adam Warner, IKM Inc.

Children's South was competitively bid and Rycon Construction was the successful bidder in the spring of 2013. McKee says that Rycon mobilized on the site after Memorial Day 2013 and planned for a 15-month schedule to meet the opening date.

McKee notes that although Rycon wasn't on board during the design stage, he was brought into the process of planning the project as though it was. He remains impressed at the level of engagement by the owner.

"Children's Hospital and UPMC were very involved in the project. They really care about the details in their hospitals," McKee observes. "Given the nature of the patients and the kinds of illnesses they have, that makes sense. They were very involved in the details, down to the finishes and the palette."

Since the project involved only new construction, most of the challenges during construction came before the building came out of the ground. The work below grade required solutions that weren't right out of the box.

The site where Children's South was to be built had an industrial past and the building pad sat where a detention pond had been located when a large steel fabrication shop was operating there. For the new hospital, Rycon undertook ground improvement measures and built a foundation system that was extraordinary for the size of the facility.

"Because of the presence of rock on the site, a bed of micro piles was installed to help support the building. Over 600 piles were installed as part of the building foundation system," notes Froehlich.

"We had to use an auger cast system that included piles at bedrock and every six feet we drilled another 18-inch concrete pile that had three feet of stone above it to help support the stone beneath the slab-on-grade," explains McKee. While the auger-cast piles tied to the structural steel, these additional concrete piles reinforced the structural slab.

Another improvised method employed by Rycon was noted by all parties to the project as unique.

"Actually, the footprint of the building was situated on an existing parking lot," recalls Froehlich. "Instead of tearing up the lot at the outset of construction, Rycon chose to leave the lot in place, thereby minimizing the amount of erosion and sediment control needed in a project of this size."

"There was an asphalt parking lot where the building was to be located and we used that as a base for the ground improvement measure," notes McKee. "Instead of tearing up the parking lot we punched through it to drill and kept the rest of the asphalt intact. That meant we weren't sliding around in the mud or dragging mud from the site onto the township roads."

McKee thinks that was one of the reasons why South Fayette Township officials and residents had few, if any, gripes about the project during construction.

McDonnell jokes that this improvised method worked so well that he'd like to write it into specifications for future projects.

"I remember walking into the job trailer and asking them when they were going to scrape this asphalt off, and they said we're not," he laughs. "We talked through it and I said I'd never seen it done like that but why not."

Construction stayed on schedule throughout the following winter and spring, even as the "polar vortex" of January 2014 presented challenges for the specialty contractors. Rycon Construction hit substantial completion on July 28, 2014 and managed the logistics of bringing together medical equipment that was new and from existing practices in multiple locations. There was also a late addition to scope.

"With only a few months remaining on the project, UPMC decided to implement a PET-MRI program in the facility that was originally shell space as part of the base bid," recalls Froehlich. "Rather than delay the opening date, which had been published for months, the construction team accelerated the process of building out the shell space to incorporate the equipment and worked together with UPMC's Imaging Team to ensure that the MRI was operational on day one of operation."

McKee downplayed the impact of the additional scope and pointed to another part of the process, an extension of the

Photo by Craig Thompson Photography.

Photo by Craig Thompson Photography.

planning, that ensured that there would be few problems at move-in time.

"There were six or seven different user groups occupying the building and each had its own set of requirements," he explains. "Planning was done in advance but it's often difficult for most people to visualize the finished look of a space from a set of plans. We brought groups through during framing and drywall so they could see the rough volumes and layout. That way if there were going to be any changes, they could be made as work proceeded."

Both McKee and McDonnell noted that there were far fewer change orders than might have been expected from a design-bid-build delivery model. They credit the engagement of the owner and the process.

"In 27 years that I've practiced – a lot of which has been in healthcare – this is the first project that I've had site specific imaging equipment drawings from a vendor before the project was done in design," notes McDonnell. "Those drawings inevitably come out in the middle of construction and then there is reissuance of new drawings and a change order associated with that. This is an example of the owner really getting us all of the information early enough to incorporate into the design, which also means they gave us enough time to do the work."

The wayfinding color schemes for each floor are set at the elevators and lobby. Top-lit translucent panels serve as directories for each floor. Photo by Craig Thompson Photography.

Photo by Craig Thompson Photography

"The level of cooperation between Rycon, UPMC and IKM had a feel of a CM at risk project, rather than one that had been competitively bid," admits Froehlich. "All parties were aware of the visibility and critical importance of the project to Children's Hospital of Pittsburgh and UPMC senior management, as well as to the communities that the new facility served."

"All in all, we had some struggles we went through but the job was free of major hiccups," recalls McKee. "I hope UPMC remembers it the same way. I still have the shovel from the groundbreaking in my office. It's something I'll glance at when I'm having a bad day because I remember what a rewarding project the Children's job was."

Children's Hospital of Pittsburgh of UPMC South opened on September 29, 2014 with a community-wide open house. Neighbors were impressed with the new hospital and Children's Hospital achieved what it was attempting.

"Children's subspecialty care, primary care and Express Care

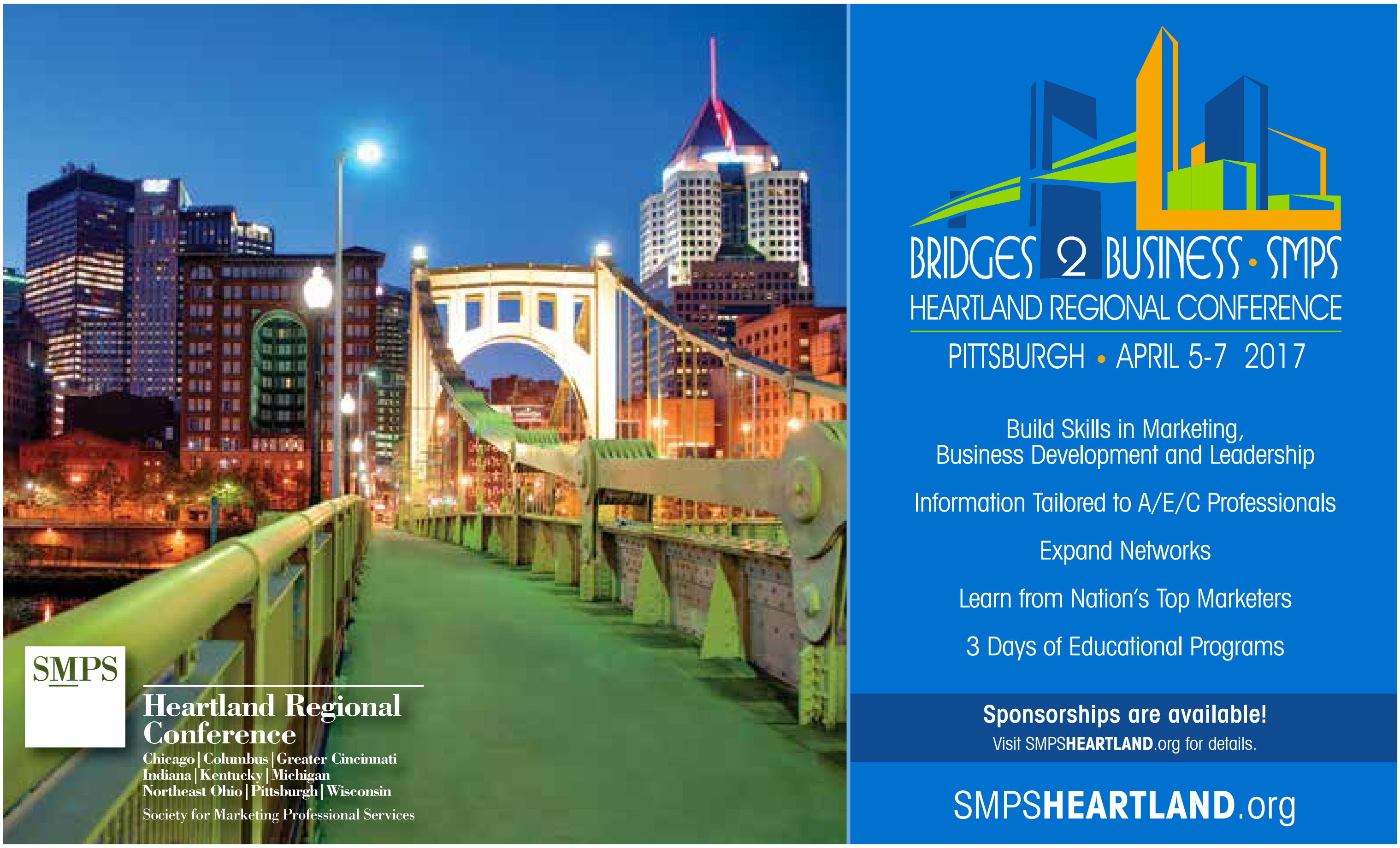
"The new Children's South is a beautiful, family friendly environment that is easily accessible to families from southwestern Pennsylvania, northern West Virginia, and eastern Ohio."

are under one roof and we have increased space so these programs can grow, allowing us to accommodate the growing demand for our programs in the regions south of Pittsburgh," says Christopher Gessner, president, Children's Hospital. "The new Children's South is a beautiful, family friendly environment that is easily accessible to families from southwestern Pennsylvania, northern West Virginia, and eastern Ohio."

"One of things that told me that we succeeded with the building was when we were doing the programming for Char Valley High School just down the road, we asked the students what they wanted their new school to look like, to be like," McDonnell notes. "Many, many voices in the room said we want this to be like that new Children's Hospital down the street. That was a real testament to all the thought and the work and the commitment that UPMC put into it and the challenge they presented to us." BG

PROJECT TEAM

University of Pittsburgh Medical Center .... Owner
Rycon Construction Inc. .... General Contractor
IKM Inc. .... Architect
W. G. Tomko Inc. .... HVAC/Plumbing Contractor
Star Electric Co. .... Electrical Contractor
BKG Industries .... Sitework/Excavation
A. Folino Construction .... Concrete
Amthor Steel Co. Inc. .... Structural/Miscellaneous Steel
A. C. Dellovade Inc. .... Metal Wall Panels
Brayman Construction .... Foundations
Fire Fighter Sales & Service .... Fire Protection
Franco Associates .... Masonry
Southwest Aluminum & Glass .... Glazing
Overhead Door Company of Pittsburgh .... Overhead Doors/Grills
T. D. Patrinos Painting & Contracting .... Painting
RAM Acoustical Co. .... Drywall
Schindler Elevator Corp. .... Elevators
Flooring Contractors of Pittsburgh .... Carpet/Flooring
Massaro Industries .... Ceramic Tile
Master Woodcrafters .... Millwork
Stringert Inc. .... Roofing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(Left-to-right) LSCI's Steve Basile, Jeff Lancaster, the late James Feeny, Robert Carroll (an OSHA compliance specialist) Scott Raymond, and Michael Rubeo celebrate Feeny's lifetime service recognition.

Jeff Lancaster believes in leading by example. When you tour the offices of the Wexford-based safety consulting firm, among the first things you'll notice is the wall of plaques commemorating the safety of Lancaster Safety Consulting's (LSCI) own workplace. Lancaster is particularly proud to share that in 13 years of business, LSCI has had zero reportable incidents. For a company that helps others navigate the volumes of Occupational Safety and Health Administration's (OSHA) rules and regulations, such a track record adds enormous credibility.

"It's critical to get everyone from the owner on down to the temporary worker involved in the safety culture to understand we all share a common bond: we all want to go home unharmed at day's end," he stresses.

"Many of our customers have their own safety departments," Lancaster continues. "The biggest advantage we have as a third party is that we can be a non-political voice saying, 'These are your eyes and your hands. Don't you want to go home with them every night?' We're not the HR department. This isn't about their raise. We're there to change the culture."

LSCI is an independent private consultant that specializes in keeping its clients on the right side of OSHA. Its menu of services can include simply updating manuals and documentation annually or being a hands-on partner in fostering a world-class safety program. The latter involves regular inspections of facilities, leading training at specific jobs on a site or at a workplace and providing the documentation for both the training and the compliance.

"We are business consultants helping our clients to manage their safety. That starts with an evaluation," Lancaster explains, noting that clients have varying degrees of expectation about the depth of the evaluation. "That starts with what the law requires. Which OSHA regulations pertain to their operation? We help to develop the written programs for them. Along with that we develop training Powerpoint [presentations] that our trainers use on site. It's not just general training. It has to be job-specific, site-specific training. In a nutshell that's what we do: make sure they have the written programs and documentation; understand their recordkeeping requirements; understand their new hiring requirements; their procedures for vendors, visitors and guests. It's all a matter of training. We train everyone; even office personnel who may never be exposed to hazardous situations may still face some hazards in their day-to-day situations."

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Jeff Lancaster became a safety consultant upon graduating with a degree in business administration from Adrian College in 1976. While working for a national security and alarm system manufacturer, Lancaster toured plants and sites around the country, proposing security, access control and fire alarm systems. In the early 1990s, he noticed a change in what his customers were requiring.

"When I would go back to explain their fire alarm system or camera system they would ask if I had an evacuation program, a written plan? They didn't know where to get one," he recalls. "That's where I got the idea that there was a need for written programs in accordance to the law. The law is very specific. About half of the states have federally-run OSHA and about half are state-run but they all have the same minimum criteria, where the employer must assess the workplace for hazards, come up with formal written programs and train their workers."

Lancaster was part-owner of two different alarm companies during this period but decided to launch a full-time safety consulting business in 1998. After six years of growing his independent consultancy, he founded Lancaster Safety Consulting in 2004 and incorporated the following year. Working initially from a converted house on Sheraton Drive in Cranberry Township, LCSI grew to occupy the fourth floor of the offices at the Doubletree by Hilton (then the Sheraton Four Points) and more recently, to larger offices in Wexford at 100 Bradford Road.

LSCI started as a regional enterprise, limiting its territory by the distance needed to drive for sales and training calls. As its reputation grew, repeat clients asked LSCI to provide services in locations outside the Tri-state area. That meant hiring trainers but that also gave LSCI the chance to leverage those trainers – who were often times retired OSHA trainers or safety directors – to add clients in those areas. Today, LSCI has thousands of clients in all 50 states and Puerto Rico. The company employs 35 in Wexford and roughly 65 trainers and consultants working on a contract basis throughout the U.S.

"We work with many Fortune 500 and Fortune 100 companies but our bread and butter are the small companies that are growing fast and are too busy with their trade to build a staff of full-time safety people. We fill that void," Lancaster explains.

LSCI's business model is built on its extensive understanding of the voluminous OSHA regulations. Employing consultants who are continuously monitoring regulatory changes and court decisions, LSCI offers a deep knowledge base to clients who are on the continuum of safety between responding to a compliance violation at one end and maintaining a world-class program at the other end. Many of LSCI's clients came to the company as a result of an OSHA violation. Most have stayed with LSCI because of its advocacy for constantly improving the safety culture of its clients.

Lancaster Safety's business is split fairly evenly between corporate/industrial clients and construction clients. Lancaster doesn't downplay the challenges of maintaining a safe industrial site but points out that a construction job site offers challenges that fixed buildings do not.

"You can make the argument it's more difficult to have a world class safety program at a [construction] site because the conditions are changing every minute," he asserts. "In a plant you have four walls and maybe the only people in the plant are your own workers, working on their own machines in their own department, with their own procedures. You have a greater chance of safety success and avoiding injuries there. On a job site it can get windy. It can get rainy. You can get a delivery and someone on site who doesn't know they should check in to a site trailer. OSHA refers to a job site as a multi-employer workplace.

"To this day, most businesses – especially in construction - don't have a full understanding of their responsibility. They think 'that's the subcontractor not me; he's responsible' but it's their responsibility too. It's everyone's responsibility. The goal here is to prevent injury."

The biggest problem at construction sites is a lack of communication about expectations and awareness. For example, a driver is told to deliver materials to a site with no communication about the specific hazards like overhead power lines or muddy conditions. Lancaster says the misunderstanding of the shared responsibilities of a multi-employer workforce is commonplace in construction. From skilled workers up to the project owner, there is a duty to ensure that all parties on a construction site do not create a hazard for others. OSHA's general duty clause requires that owners and employers assess each workplace and make workers aware of all known hazards. Once hazards are identified, it's incumbent upon the employer to take steps to mitigate or eliminate the hazards. Those steps can come in the form of engineered solutions, like fences or barriers, or in personal protection solutions, like harnesses or hard hats. Lancaster says that this heightened awareness is an important part of LSCI's training.

"Every contractor has a safety person, even if that's not their title. That's part of our training. They need to have somebody job site watching these hazards. A third-party consultant brings a lot to the table but not day-long supervision," he stresses. "There must be somebody educated to assess the workplace for hazards. We don't replace on-site supervision but we can become their best resource. We're just a phone call or email away. Sometimes we can resolve disputes just by reading the OSHA standards."

LSCI is a strong advocate for OSHA's Voluntary Protection Program (VPP), which exists to set a high bar for safety management and promotes a culture of continuous improvement for workplace safety. Lancaster says that the VPP designation – which LSCI has achieved – means that an employer is committed to a philosophy that the workplace can always be safer. He believes that has extended benefits that multiply the return on investment.

"You end up with a happier workforce that knows the employer cares about them," Lancaster says. "You retain your workforce. You have less turnover, which is immeasurable in a business. That attracts friends who want to work in a place that cares about their safety. You have less wasted human resources time spent training workers that leave in six months or a year. You have greater productivity from your workers. You have less injuries and lost work days with a trained and knowledgeable workforce so the employer is paying much less for their insurance. Accidents cost money."

"Just look at your workers comp costs and do the math on what would happen if there was half the number of accidents. It's phenomenal how much money is lost," he continues. "There is no good news from having an accident."

Lancaster sees more corporate leaders understanding the importance of a greater emphasis of safety. He sees more meetings starting with safety updates that review any recent injuries or injuries prevented. As LSCI has grown, it has been able to focus its efforts on educating industry and working to deepen the culture of a safe workplace with its clients. LSCI's founder seeks to constantly raise the bar in a field that is built upon the mistakes of the past.

"There's an old saying that the OSHA regulations are written in blood. It took until 1970 to form an agency because too many people weren't coming home healthy or coming home at all from work," says Lancaster. "Almost all the rules and regulations you see today come from somebody getting hurt. Doesn't it make sense to learn these requirements ahead of time, put them in place before someone gets hurt or dies at your site? The companies that agree become our clients. Not everybody understands or has the opportunity to be posed the alternative: Would you rather wait for somebody to get hurt to do something or put a little money into safety and save a ton of problems down the road?" BG

LEGAL PERSPECTIVE

Construction Law 2016 – The Year in Review

BY MATTHEW JAMESON III, ESQ. AND JAMES D. MAZZOCCO, ESQ.

On Thursday, March 9, 2017, the Construction Services group of the law firm of Babst Calland Clements & Zomnir, P.C. held its annual Year in Review Seminar. Attended by over 100 construction professionals, Babst Calland's Year in Review Seminar summarized and addressed the implications of the most noteworthy construction-related legal developments of 2016, including the latest amendments to Pennsylvania's Mechanics' Lien Law, labor and employment issues, cases interpreting Pennsylvania's payment acts, construction claim damages, and a recent decision involving a jurisdictional dispute on a public construction project.

MECHANICS' LIEN LAW AMENDMENTS

On October 14, 2014 then-Governor Tom Corbett approved legislation amending Pennsylvania's Mechanics' Lien Law. Commonly referred to as Act 142, the amendments established a structured procedure for owners, contractors, and subcontractors to receive and give notice of mechanics' lien claims, as well as a central electronic repository under which these notices must be filed (the "Directory"). Act 142 was widely supported by both owners (along with construction lenders) and contractors as a means to better identify all subcontractors and material suppliers with lien rights on a project.

Act 142 became effective on December 31, 2016, and the new notice requirements apply only to "searchable projects" beginning after that date and costing at least $1.5 million. Specifically, Act 142 allows the following four notices to be filed with the Directory: (1) Notice of Commencement; (2) Notice of Furnishing; (3) Notice of Completion; and (4) Notice of Nonpayment. Use of the Directory is discretionary, but an owner must file a Notice of Commencement before any labor, work, or materials are furnished for the project if the owner wishes to avail itself of the Directory's protections. If an owner files a Notice of Commencement, a subcontractor (defined as including first and second tier subcontractors or material suppliers) must file a Notice of Furnishing detailing the work it performed within 45 days of first performing that work or delivering materials to preserve its lien rights. Act 142 also permits – but does not require – an owner to file a Notice of Completion within 45 days of "actual completion" of work on the project, and allows a subcontractor to file a Notice of Nonpayment if it does not receive complete payment for its work or materials. The Directory can be accessed at http://www.scnd.pa.gov/.

EMPLOYMENT AND LABOR DEVELOPMENTS

On April 17, 2016, Governor Tom Wolf signed Pennsylvania's medical marijuana program into law. The Medical Marijuana Act ("MMA") "legalizes" marijuana in Pennsylvania for the treatment of certain chronic conditions, including cancer, Lou Gehrig's disease, multiple sclerosis, and Crohn's disease. While many patients needing medical marijuana will be physically incapable of working, those individuals who are diagnosed with MMA-eligible conditions such as chronic pain or post-traumatic stress disorder will present significant work-related issues.

Unfortunately, the plain language of the MMA creates conflicting rights for both employers and employees. Yet the MMA is unlikely to have significant impacts on the construction industry because it affirmatively states employers are not required to make any accommodations of the use of medical marijuana. As "zero tolerance" policies and negotiated drug-free workplace protocols are common in the industry, construction employers are unlikely to experience any serious disruptions from the MMA.

In other employment news, another attempt is being made to repeal Pennsylvania's Prevailing Wage Act. Representative Ron Kaufman (R) introduced House Bill 260 based on the argument that prevailing wage rates have resulted in increased public construction costs. House Bill 260 last saw activity on January 31, 2017 when it was referred to the Labor and Industry Committee, and its future remains uncertain. Interestingly, West Virginia repealed its Prevailing Wage Law on February 4, 2016.

PAYMENT ACTS

After years of litigation, the Pennsylvania Supreme Court clarified in *Scungio Borst & Assocs. v. 410 Shurs Lane Developers, LLC*, whether an owner's agent could be individually liable under the Contractor and Subcontractor Payment Act ("CASPA"). In *Scungio Borst*, the owner's president and 50% shareholder authorized the general contractor to perform over $2 million in extra work. When the general contractor did not receive payment for this extra work, it brought suit against both the owner and its president individually under CASPA. The Pennsylvania Supreme Court held CASPA liability does not extend to an individual.

In *A. Scott Enterprises, Inc. v. City of Allentown*, the Pennsylvania Supreme Court held that an award of interest and attorneys' fees is not automatic under the Procurement Code, even when a public owner withholds payment in bad faith. While an award of penalties and fees is not mandatory in the presence of bad faith, the court did note that instances where such an award is not required will likely be rare.

CONSTRUCTION CLAIMS: RECOVERY OF DAMAGES

The United States District Court for the Eastern District of Pennsylvania addressed the importance of construction lien waivers and releases, and the practical importance of raising performance and interference issues in a timely fashion. In *Bricklayers & Allied Craftworker Local 1 of PA/DE, et. al. v. ARB Construction, Inc. et. al*, subcontractor ARB submitted along with each payment application a release of liens releasing all claims against general contractor EBS. Despite having an opportunity to do so, ARB never listed any claims on the reverse side of the release, or anywhere else. When the project encountered issues and ARB attempted to assert claims against EBS, the court reasoned ARB released all claims via the signed releases. ARB could have noted EBS' failure to honor the terms of the contract, or could have refused to sign the releases. Overall, *Bricklayers* is a reminder that waivers will be enforced according to their terms, and are not automatically limited to mechanics' lien rights.

JURISDICTION DISPUTE

In a recent and particularly important case, an appellate court overturned a 2016 decision by the Court of Common Pleas in *Wheels Mechanical Contracting and Supplier v. West Jefferson Hills School District and Nello Construction*. Specifically, on February 28, 2017, the Commonwealth Court held that challenges to bid specifications should be brought during the bid process or before contracts are awarded and/or construction commences. West Jefferson Hills School District solicited bids for a $100 million high school construction project. As with all public projects in Pennsylvania, the Separations Act required the School District to break out the Project's electrical, plumbing, HVAC, and general construction contracts. Of relevance in this case, the Project's specifications assigned all sanitary line, storm line, and water line installations inside the building and up to five feet outside of the building to the plumbing prime contractor. As is common in the industry, all site sanitary, site storm, and site waterline installation more than five feet from the building was assigned to the general prime contractor as "site utility" work because of the significant trenching and backfilling required. In January of 2016, the School District awarded the plumbing prime contract to Wheels Mechanical, and the general construction prime contract to Nello Construction.

On June 1, 2016, Wheels brought suit to stop certain work on the Project. Essentially, Wheels contended that all sanitary sewer, storm sewer, and water line work should have been included as part of the plumbing prime contract – regardless of whether the work was to be performed inside the building or further than five feet from the building. Wheels claimed the School District violated the School Code and Separations Act by failing to include all of this work in the plumbing package. The Laborers District Council of Western PA intervened on behalf of the School District and Nello, and the Plumbers Local Union No. 27 intervened in favor of Wheels.

In a decision that surprised many, the trial court sided with Wheels and granted injunctive relief. However, the Commonwealth Court reversed the trial court's decision pursuant to the legal doctrine of laches. Simply put, laches refers to a lack of diligence and activity in making a legal claim, or moving forward with legal enforcement of a right. Here, the Commonwealth Court reasoned Wheels had a duty to recognize its claims during the bid process or immediately after contracts were awarded. Instead, Wheels waited nearly seven months after receiving the bid specifications to initiate the action. By that point, all contracts had been awarded and work at the project was well underway.

However, it is important to note that the Commonwealth Court's ruling did not address the underlying issue of whether the disputed work should actually be included in the prime plumbing or general construction contract. This uncertainty makes this issue ripe for another challenge, and suggests that additional litigation on this topic may occur in the near future. We will also not be surprised if standard specifications are now revised in a way that attempts to avoid this potential jurisdictional dispute. BG

Matt Jameson chairs the Construction Services Group at Babst Calland and he is a shareholder at the firm. J.D. Mazzocco is an associate attorney is the Construction Services Group at Babst Calland. Please contact either of the authors if you would like a copy of the PowerPoint slides from the referenced seminar or if you would like to receive an invitation to next year's Babst Calland Construction Law Year in Review seminar.

FINANCIAL PERSPECTIVE

2016 Accounting Standards Update: Understanding the Changes to Lease Accounting and What You Should Do Now

BY SHANE M. GASTECKI, CPA AND BRIAN W. MATTHEWS, CPA

On February 25, 2016, the Financial Accounting Standards Board (FASB) finalized the long-awaited accounting standards update (ASU) related to accounting for leases, ASU 2016-02, Leases (Topic 842). The objective of ASU 2016-02 is to improve transparency and comparability of financial reporting. Public business entities are required to adopt the standard for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and non-public business entities the following year (i.e., calendar year 2020). Early adoption is permitted for all entities.

The core principal of the new standard is the idea that a lessee shall initially recognize a right-of-use asset (ROU) and a liability for its lease obligation as of the lease commencement date for virtually all leases. The FASB believes that this will help increase transparency in organizations' financial positions.

The changes brought about by this new ASU could also have a significant impact on many metrics that organizations use. A few metrics that could be affected are listed below.

It is vital that you discuss with all stakeholders of your organization the impact that this change will have on your metrics and how agreements should be amended or redefined in order to better align with your operational and reporting needs.

SCOPE AND DEFINITION

ASU 2016-02 applies to all entities that enter into leases. A lease is defined as "a contract, or part of a contract, that conveys the right to control the use of identified property, plant and equipment (an identified asset) for a period of time in exchange for consideration."

The definition is consistent with previous U.S. GAAP, but focuses more on the notion of control. The new standard identifies control as having both the right to substantially all of the economic benefits and the right to direct the use of the identified asset.

Certain types of leased assets are excluded from the new ASU, including leases of intangible assets, biological assets, assets under construction and leases to explore for or use minerals, oil, natural gas and similar non-regenerative resources.

Leases with related parties should be evaluated based on the legally enforceable terms and conditions of the lease. Disclosure requirements of Topic 860, Related Parties, apply.

A lessee is permitted to adopt an accounting policy by asset class to not recognize lease assets and lease liabilities for leases with terms of 12 months or less, including any renewal periods that are reasonably certain to be exercised. Organizations making this election are to recognize lease expenses on a straight-line basis over the lease term.

COMPONENTS

Many contracts contain multiple components. The standard requires the segregation of lease components from non-lease components (such as service or maintenance components). Non-lease components are required to be accounted for separately under the applicable U.S. GAAP provisions. Components are to be allocated relative to their stand-alone price (from the lessee perspective) or performance obligation in accordance with Topic 606, Revenue from Contracts with Customers.

Lessees can make an accounting policy election to not separate lease components from non-lease components as a practical expedient, which will require the accounting for a single lease component that includes both the lease

component and non-lease components in accounting for the lease asset and lease liability. The election can be made by asset class.

DETERMINING A FINANCE VERSUS OPERATING LEASE

In determining whether your contract meets the definition of finance or operating lease, the requirements are similar to the previous treatment in determining a capital versus operating lease, with just a few changes. If any of the below apply, the determination would be that your contract is a Finance Lease:

1. Does the lease transfer ownership of the underlying asset to the lessee by the end of the lease term?
2. Does the lease grant the lessee an option to purchase the underlying asset that the lessee is reasonably certain to exercise?
3. Is the lease term for the major[1] part of the remaining economic life of the underlying asset?
4. Does the present value of the sum of the lease payments and any residual value guaranteed by the lessee that is not already reflected in the lease payments equal or exceed substantially[2] all of the fair value of the underlying asset?
5. Is the underlying asset of such a specialized nature that it is expected to have no alternative use to the lessor at the end of lease term?

INITIAL MEASUREMENT

The initial measurement of an ROU asset and lease liability is generally the same for both types of leases. The initial value of the asset and liability will include the present value of all of the following items:

1. Lease payments in noncancelable terms (including escalating payment terms)
2. Lease payment terms in renewal options (include only if reasonably certain[3] of exercise)
3. Exercise price of a purchase option (include only if reasonably certain[3] of exercise)
4. Payments for penalties for terminating the lease (include unless reasonably certain[3] not to be exercised)
5. Variable lease payments that depend on an index or rate[4]
6. Residual value guarantees – amounts probable[5] of being owed

Other items that would be included in the initial measurement of the ROU asset, but not the lease liability, are:

1. Any initial direct costs (such as legal fees, consultant fees, or commissions paid) so long as these are directly attributable to negotiating and arranging the lease and would not have been incurred had the lease not been executed.
2. Any lease payments made to the lessor at or before the commencement date, minus any incentives received.

SUBSEQUENT MEASUREMENT – FINANCE LEASE

Asset - Amortize the ROU asset on a straight-line basis over the shorter of the lease term or useful life, similar to that of other nonfinancial assets. This is similar to the previous guidance for capital leases.

Liability - Use the effective interest rate method to subsequently account for the lease liability (using the discount rate determined at the start of the lease). This is similar to the previous guidance for capital leases.

SUBSEQUENT MEASUREMENT – OPERATING LEASE

Asset - Measure the ROU asset at the amount of the lease liability and adjust for cumulative prepaid or accrued rents (i.e., for escalating or uneven payment schedules).

Liability - Measure the lease liability at the present value of the remaining lease payments (continue to use the discount rate determined at the start of the lease). This liability will not differ from that determined for a finance lease. The difference is that no interest expense is recognized.

LESSOR ACCOUNTING

The lessor accounting in accordance with Topic 842 is relatively unchanged from current U.S. GAAP accounting.

Lessors will continue to categorize leases into sales-type leases, direct financing leases and operating leases. Topic 842 identifies leasing transactions for lessors as a revenue-generating activity and aligns the revenue recognition with Topic 606, Revenue from Contracts with Customers. For operating and direct financing leases, lessors will continue to recognize income over the lease term on a straight-line basis. For sales-type leases, lessors will recognize the gain at the

Lessor Lease types

	Sales type leases	Direct financing	Operating
Balance sheet	Recognition of net investment in the lease	Recognition of net investment in the lease less selling profit	Continue to recognize the underlying asset
Income statement	Recognize selling profit or losses at commencement; Recognize interest income and variable lease payments when earned	Recognize interest income and variable lease payments when earned	Recognize lease income and variable lease payments when earned

Metric	Definition
Leverage Ratio	Debt/Equity
Current Ratio	Current Assets/Current Liabilities
Debt to EBITDA	Debt/EBITDA
Return on Assets	Net Income/Total Assets

inception of the lease if control is transferred (in accordance with the principal of a sale in Topic 606).

Leverage leases that were entered into prior to the effective date of ASU 2016-02 are grandfathered and not required to be retroactively reported. However, the accounting model for leveraged leases was not retained by the ASU and should be assessed under the terms and conditions of the contract.

WHAT YOU SHOULD DO NOW?

The changes required by ASU 2016-02 are effective for public entities for fiscal years beginning after December 15, 2018, including interim periods within those fiscal years, and for nonpublic entities for fiscal years beginning after December 15, 2019, with early application permitted for all entities. Here are the steps you should take now:

1. Gain an understanding of the FASB lease update – With the release of this update, there are many trainings, webinars, and materials available to help explain the specifics of the update and its impact. Take advantage of these resources now to ensure that you understand how the update will impact your organization when it is required to be adopted.

2. Inventory your leases – The largest struggle for most organizations will be that there is generally a lack of centralization for lease maintenance within the organization. It will be vital that organizations identify all equipment and rental contracts to assess whether or not each lease meets the definition of a lease that requires capitalization. Pay close attention to the termination dates of the lease contracts. For those leases that extend past the effective date of the update or are expected to be extended past this date, organizations should begin summarizing the key terms of the agreements now.

3. Establish software/tracking assistance – Many organizations currently do not have a good system for tracking and managing leases. Your organization should assess whether tracking software would be beneficial. For those with a significant amount of leases, this could help reduce some of the added administrative work that will be involved with tracking these lease agreements manually.

4. Educate stakeholders of your organization – With this change, there could be potential effects to items such as debt covenants, and other metrics used by stakeholders of your organization. It is important to inform all stakeholders about these changes, and to discuss how you should adjust or amend any related agreements.

5. Have a plan in place – Although it may seem far away, it is important to put a plan in place now to ensure that you are ready when the time comes. Without a formal plan in place, organizations may find themselves struggling to be in compliance by the effective date.

With these changes, there will be added administrative work; however, there will also be opportunities to improve your organization. In the process of inventorying and centralizing your leases, you will gain visibility into your full leasing portfolio. In turn, this can lead to better decisions around your leasing strategies, and potentially help in making decisions on leases and purchase options. So, while the effective date may seem far away, do not make the mistake of waiting until it's too late. BG

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1. *Can utilize the previous "the period of the lease encompasses at least 75% of the useful life of the asset" rule as a guideline.*
2. *Can utilize the previous "the present value of the minimum lease payments required under the lease is at least 90% of the fair value of the asset at the inception of the lease" rule as a guideline.*
3. *"Reasonably certain" is a high threshold and is consistent with the "reasonably assured" threshold in the previous lease guidance.*
4. *Exclude most variable lease payments (e.g., additional rent tied to sales or thresholds to be met) in measuring lease assets and lease liabilities, other than those that depend on an index or a rate or are in substance fixed payments.*
5. *Probable is defined as a future event or events that are likely to occur.*

MANAGEMENT PERSPECTIVE

U.S. Markets Construction Overview

BY W. CHRISTOPHER DAUM

PLAN FOR CONTINGENCIES, EXECUTE BASED UPON THE FACTS

The election was a big point of uncertainty and contention. With that behind us, many of our clients are cautiously optimistic—if not even bullish—on the U.S. engineering and construction industry going into 2017. Favorable general economic conditions, a high level of consumer confidence and the potential for tax reform and increased federal spending all promise to keep the industry on track for yet another positive year. Of course, with this optimism comes a dose of pragmatism, including uncertainty about what these new policies and regulations will look like and whether Congress will have the ability (or the will) to enact legislation that's favorable to the E&C industry. Given that we are in an era of sustained deficit spending and escalating national debt, significant levels of conflict could lead to a political stalemate. This scenario could impact tax and health care reform, infrastructure spending bills and other key initiatives in which all stakeholders are at odds, and, consequently, everything comes to a standstill. For companies in engineering and construction, infrastructure and the built environment, the question becomes: Are you going to push forward with capital projects that are on the drawing board right now, or are you going to wait and see what happens? To the extent that this indecision drags on for a substantial amount of time, the result could be fewer construction starts and more project delays. That's the hidden risk behind all of this optimism that we're observing in the marketplace right now. Finally, ongoing political and economic events in the global arena may also shape and influence U.S. economic conditions in 2017, and therefore we should all be monitoring these dynamics very closely as the year progresses.

DON'T SPEND AHEAD OF THE MARKETPLACE REALITIES

In today's VUCA world, an environment characterized by volatility, uncertainty, complexity and ambiguity, our advice to clients is: Plan for contingencies, expand your scenarios to the upside and always execute based on facts. Put simply, don't let your optimism and bullish outlook go unbridled in an environment where unknowns and challenges are lurking around the next corner. To avoid any unpleasant surprises as 2017 progresses, focus on what's real rather than spending ahead of marketplace realities and your firm's ability to perform. If you're the CEO of a company that's operating successfully in the private markets right now, for instance, think twice before shifting to public markets simply to claim a stake in the proposed infrastructure plans. If you're not already in those markets, we advise waiting for and vetting the validation of sustained, long-term events before making any major moves in this direction. If there's one thing we all learned from the last recession, it's that abandoning core and incumbent markets to chase the next best thing is not a sustainable growth strategy. Instead, preserve your core business and take advantage of any market opportunities that open up when your competitors get distracted by chasing the next big thing. Keep your core markets, core services and core capabilities very strong, and stay loyal to your key clients. It's what you execute best on. Sustaining and expanding work with existing customers in known markets often leads to more stable business and better profits over time—regardless of external market dynamics.

Questions that company leaders should be asking themselves right now include:

- What do you want your company to look like five years from now? Ten years from now?
- How do you want to invest in growing your equity base?
- Do you build and invest through mergers and acquisitions?
- How do you invest in building your company with top-tier talent and a pipeline of such talent? Are you investing in building a top-performing executive team for today and the future?
- Can you use this period to invest in operational excellence that creates a culture with long-term payback/ROI?

What boundaries have you put in place that prevent you from chasing the next shiny object/opportunity? If you identify an opportunity, does it take your company closer to your Big Hairy Audacious Goals (BHAG), or is it merely a detour? These are just a few of the important questions that companies need to be asking as we move into 2017 and as new opportunities start to surface.

FAILING WHEN TIMES ARE GOOD

As we like to say, "Contractors don't starve to death; they die from gluttony." In other words, contractors don't fail for want of work or because times are tough. They fail because they get too much work, too fast, with inadequate resources, and then they get into financial trouble and run out of cash. In light of today's severe labor shortages, this problem becomes particularly acute in an environment where demand is expected to accelerate in one or more sectors of the economy (i.e., a focus on infrastructure). Furthermore, consider the fact that between 2009 and 2015, the average number of months of contractor backlogs (for all types of contractors) increased by 33 percent. At the same time, contractor margins are now tighter, contractual conditions and projects more complex, and 1.5 million fewer construction workers remain in the industry (compared to pre-recession levels). All this to say: Think twice before you introduce more risk variables by abandoning your core markets. As we move further into 2017, we caution E&C firms to be wary when chasing down new work opportunities. Even though it's a natural inclination, this strategy can ultimately lead to greater levels of insolvency, bankruptcy and other issues for the industry. It's almost inevitable that companies will get ahead of themselves and spend their balance sheets chasing dreams, news and promises. To avoid these traps, companies need to focus on the facts and business fundamentals and keep their eye on the ball. Know the markets that you're going into, the lines of business that you're taking on, or the vertical sectors that you're exploring—particularly if these are new to you.

LOOKING AT NEW ALLIANCES AND PARTNERSHIPS

Following years of sustained incremental growth, the industry may experience an acceleration of larger public infrastructure programs and more opportunities for public-private partnerships (P3s) to fund new projects. One of the questions we hear a lot from clients right now is, "If we're operating at full capacity, how do we leverage opportunities that new customers or adjacent markets are presenting to us?" In these scenarios, joint ventures, partnering or outright mergers and acquisitions can be an appropriate strategic move. Consider the fact that more than 30 sizable E&C firms from Asia, South America, Europe and the Middle East are currently showing a strong interest in the North American infrastructure market. These companies often bring significant resources, capabilities and project resumes, including project finance elements that are often lacking among midsized and large U.S. firms. Some of these firms are looking to diversify beyond their dormant, declining economies, while others have grown too large for their current markets and must expand internationally in order to utilize their acquired resources. Seeking design-build partnerships and firms of scale, these international companies often have self-perform capabilities and can position themselves as part of the proposed infrastructure spend. This could present significant opportunity for U.S. and Canadian firms that can partner with, form joint ventures with or even be acquired by these larger players that want to gain a foothold in the North American market. If you choose this strategy, make sure you have done your research around how to build great partnerships, and assess how these partnerships align with your core purpose as an organization and your culture. Because local delivery capability will be in high demand, such alliances or mergers could provide a strong underpinning for firms that want to get involved with large-scale national projects.

KEEPING AN EYE ON THE FUTURE

Today's political and economic environment leaves many unanswered questions, but there are some key trends that will continue to shape our industry well into the future. For example, consider the evolution of smart buildings and smart infrastructure: a web of interconnected systems and devices with lights, smoke alarms, HVAC systems, security, water, appliances and other systems managed through a central interface. In the past, these systems—while perhaps sophisticated in their own right—existed independently and did not communicate with one another. Today, manufacturers are rushing to find ways to connect and integrate their products with all components of the building and related monitoring services, and then linking the information back to the building owner. Exactly which companies will control the interface is still an open question, but the stakes are obviously high. Buildings represent the largest energy end use in the world, consuming roughly half of global electricity. This fact has been a driving force in the early development of the smart building, which saves money by optimizing the efficiency of electrical systems, matching occupancy patterns to energy consumption, and improving equipment maintenance with real-time data collection. Innovative companies that adopt and implement new manufacturing and prefabrication techniques in order to work smarter, faster and safer are also transforming the industry. This "silent movement" is happening in pockets across the country, in different market sectors and across a range of project types and sizes. And while this may not be a sweeping transformational disruption across the entire E&C space just yet, there is no doubt that transformation is happening. Firms that anticipate and adapt to changing circumstances will not only survive the changes impacting the E&C industry, but also thrive on future shifts. Going into 2017, keep an eye on movements and events, both within the industry and beyond its boundaries, as these long-term trends continue to shape our industry.

CAUTIOUS OPTIMISM

Looking ahead in 2017, there is cause for continued optimism for the North American E&C industry. However, beyond a sound economy and other traditional demand drivers, there is growing hype for a boom market in infrastructure spending, which to date is nothing more than speculation based on the new presidential administration. Our caution to clients is similar to the old Wall Street bromide, "buy the rumor and sell the news." Only in this case, we should all prepare for the possibility, but invest behind the facts. BG

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MBE / WBE COMPANY SPOTLIGHT

VO GEORGE GROUP INC.

When asked what she has seen change the most in the nine years as president of V. O. George Group, Kate Schuster seems almost surprised at the question.

"I guess we are almost to nine years," she sighs. "I miss having as much time to sell. It's weird but in 2009 we had good sales but I had the time to do all that. That's what I took 2009 to do. Now I don't have any time to sell. Construction Specialties will come in once a year if they have a new product or something and that's good because it forces me to make seven or eight appointments in a couple days. Some people hate when they come into town but I like it."

V. O. George Group is an independent manufacturers' representative firm, which handles a variety of specialty products in Western Pennsylvania and northern West Virginia. The company handles some venerable building products manufacturers, including Construction Specialties, Bilco and Precision Doors.

The specialties include manufacturers of wall protection, cubicle tracks and curtains, entrance mats, trash chutes, ladders and roof hatches.

Making sales calls wasn't part of Kate Schuster's future plan as a teen. During high school, she worked part-time for Vince George with her father Dave, putting catalogs and product sheets together. But with a degree in human resources from the University of Pittsburgh under her belt, Schuster began what she expected to be a corporate career working for Ferguson Enterprises in New Jersey. Finding that the grass wasn't greener in New Jersey, she moved back to Pittsburgh and in August 2008 joined her father, who had bought V. O. George when George retired in 2006. One month later, in September 2008, Dave Schuster died. Kate was two weeks shy of her 24th birthday.

Kate Schuster

"I had never been on a sales call. I hadn't been out of the office or been to a contractor's office. I don't even know how I did it. I just put my whole self into the company," she explains. "Part of it was my brother and sister were still in college and my mom had this house on two acres so I felt that I had this whole family to help take care of."

Schuster's resolve to keep going was tested early. One of V. O. George's main lines, Cornell Cookson Doors, decided to discontinue the relationship with the company. She recalls that Construction Specialties was reluctant about continuing the representation – "which I totally understood" – but one of their sales managers suggested that they give V. O. George a year to see how things went. One experienced estimator/manager left to handle the Cornell line and the other estimator, Greg McConnell, had started only four months before Kate.

"That was a little tough. Nobody believed in me – except for my mom," Schuster laughs. "I didn't know any better. I think that's why I kept going. I took a week off for the funeral. Then my mom and I went in on a Saturday and printed out 200 letters saying we would be keeping the business going."

Being someone's boss was the toughest part of the new situation. Schuster says she hardly knew what to do herself, let alone feel comfortable directing others. She points out that the two administrative people made a big difference by managing the company's payroll, insurance and compliance issues day-to-day. One of those two, Kathy Hammond, still works with V. O. George Group today, as does McConnell.

Schuster's team is responsible for making specification calls and identifying projects to quote. As technology has evolved, it's become easier for the manufacturers to estimate the projects directly, allowing V. O. George to focus on building relationships with the designers and general contractors to whom it sells the products it represents. Schuster is a member of the Construction Specification Institute (CSI) Pittsburgh Chapter's Board of Directors and found that the networking and monthly meetings helped build a bridge to the architects in Pittsburgh.

"Now I know somebody at all of Pittsburgh's major firms," she notes.

Annually, Schuster makes herself visit all the architects with new product binders and manuals to keep them updated and as a way to keep herself in front of the designers and specifiers. She has a similar routine with the property managers and building owners. Roughly half of V. O. George's sales are direct to the property owners for their routine maintenance and repair needs. Schuster notes that it was the business from the hospitals and universities that helped keep V. O. George's sales steady when the economy slowed in 2009 and 2010. Those were years that were critical to the company's survival.

"It's very important that I keep those relationships. I get calls from facility managers all day long, from Erie down to Clarksburg, WV. I try to be very fast in responding to their questions and problems," she notes. "These people are so busy. There's always a plumbing leak here or a roof leaking there and if I can take something off their plate it's appealing to them. That was how I started with them and now we have a great relationship with the hospitals and facility managers."

Schuster feels that it took until 2015 to work through many of the smaller management issues that nagged her as she grew into the business. Over the years, Schuster took on the responsibility for more of the administration, buying the insurance and negotiating deals with vendors. She moved the company out of their offices because V. O. George didn't need the warehouse after moving away from installation. Contact management databases were outdated. Thirty years of old files and materials had to be disposed of. Billing and accounting systems required modernizing.

"It took five years but we're finally paperless," Schuster jokes. "Everything's been a huge process. It takes a lot of patience, which I don't have a lot of."

V. O. George took on the Precision Ladder line in response to customers who wanted ladders to work with the Bilco hatches that V. O. George sold. Like when she decided to continue her father's business, Schuster had to convince the manufacturer to give V. O. George a chance. After a few years, she says the relationship is working well. Schuster attends the AIA national convention every year to research which manufacturers are looking for new reps but is being selective about any expansion of lines.

"I'm kind of at the breaking point where I have to hire somebody else. I don't know if I could actively sell a whole new line unless it really partnered with something I already had," Schuster says. "The next thing on my radar is a safety railing line, somebody like Blue Water, now that I'm on a roof all the time." BG

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Construction Safety Management: Meeting Company Safety Challenges During Economic Expansion

BY JIM COTTONE, CSP

INTRODUCTION

In today's fast-paced construction market, project owners, project managers, superintendents, foremen and field labor all need to maneuver and troubleshoot to work through contracting issues encountered on a day-to-day basis. When unforeseen problems occur in the field, there is a certain pride and can-do attitude needed to keep the project on schedule and within budget while maintaining a safe workplace. Being prepared for unforeseen events is a required competency among field supervision and remains a talent that sets construction companies apart. One very specific issue the construction industry faces in the next two to three years will challenge this skill set – Rapid Expansion.

The western Pennsylvania region will experience a dramatic rise in non-residential construction contracts over the next couple of years, increasing by as much as a 100% in 2017/18. This increase is largely due to the long awaited start of the Royal Dutch Shell Cracker Plant in Beaver County, in addition to the continued strength in commercial, industrial, retail and healthcare construction markets. This is good news for our region.

THE COMING CHALLENGE: LABOR SHORTAGE

Even the best field superintendents and foremen struggle when there are not enough qualified and experienced workers to fill the needs of the project. Much has been written about forecasts and predictions of labor shortages coming to Southwestern PA. Unions and contractors alike see this coming and are, or should be, making preparations and developing contingencies to manage what's on the horizon. This is old news. Predictions, however, will soon become reality resulting in one or a combination of the following:

- Empty union halls and/or a limited labor pool.
- Young and inexperienced workers.
- Transient workers from out-of-state bringing varying work ethics and talent levels.
- Operating with less than the required manpower or lack of qualified workers.
- Challenges with meeting owner expectations and delivering exceptional customer service.

So how do we manage these challenges and make the most of the opportunities that lie ahead? This article discusses fundamental safety management best practices that can assist with maintaining a safe and profitable work site during significant economic expansion.

CORPORATE SAFETY PROGRAM REVIEW – SELF AUDIT

The first step in addressing safety challenges is to conduct an audit of your overall safety program. Is your program a well-oiled, well running machine or one that has missed some maintenance check-ups as the road miles add up? Review who is assigned authority, responsibility and overall accountability for program implementation and update to reflect any changes in management hierarchy. Cross reference training logs, rosters, qualifications, certifications, training schedules, etc. with written safety training requirements and criteria to assure you are in compliance with your own program. Examine hazard specific operations and related written safety procedures to assure all rules, regulations and internal processes are up-to-date and consistent with your specific field operations.

Although safety initiatives should always be driven by company core values and philosophy, staying on top of regulatory requirements is a must. OSHA recently introduced revised standards and rule changes such as the new Silica Standard for construction, Reporting and Recordkeeping Requirements and interpretation of what constitutes post-accident drug testing, to name a few. Your safety program needs to reflect and stay current with the ever-changing legal landscape.

A date stamp or page footer indicating a safety program revision date should not be older than three years. Incorporating current project pictures, changing design, format and binding of the written program can help create some extra attention and allows for an opportunity to re-introduce the revised program to employees and to remind management of their roles and responsibilities.

PROJECT MANAGEMENT FOCUS AND RE-TRAINING

In the late 1970s and early 1980s, if you asked the question, "Who is responsible for construction site safety?" The answer, almost always without fail was "the safety man" or whatever title was bestowed on this new, but yet to be defined construction management position. If you ask that same question today, the answer, almost always without fail would be "everyone". Although this answer is correct from an overall holistic perspective, it does not fully address the formal process, authority and obligation of managing a construction company's safety program.

The founding principle of today's behavioral based safety programs is to let every worker know that management wants them to go home safely to their family every night. Safety leadership is most effective when executive management promotes and drives this culture. Construction safety has consistently improved safety performance over the years, however, there is still work to be done in terms of executive management believing in and driving a top-down safety culture.

Mid-level management such as Project Managers, Superintendents and Foremen ultimately provide the primary day-to-day job site leadership and are typically held fully accountable for overall project results. This, however, is where the "safety disconnect" usually occurs. More often than not, field safety responsibility falls back to the Safety Director or company Site Safety Coordinator. Despite modest results, this safety management model has remained consistent throughout the construction industry. Old habits and safety traditions die hard. To get to the next level, field leaders, motivated by executive management, must incorporate construction safety means and methods as an equal and integral part of their day-to-day planning and operations. Many will say they use this management style; however a detailed audit of field implementation often proves otherwise.

Some of the more successful contractors understand safety accountability lies with executive management and the leaders of the various work crews throughout all levels of the project management hierarchy. It is imperative that Executives, Project Managers, Superintendents and Foremen take ownership and lead this charge to allow safety professionals to be the subject matter resource they are trained to be.

- Retrain the Trainer – All project leaders should be re-trained in all aspects of the revised safety program and be re-introduced to their roles and responsibilities in terms of field safety implementation and integration into the construction process. This is also an excellent time to train, retrain and requalify your designated "Competent Person(s)" for site specific hazards as defined and regulated by OSHA.

- New Employee Screening – Review your hiring practice policy. Engage your HR professional or legal representative to guide you. Although many contractors rely on the union labor pool to screen members, implementing your own screening process is encouraged and recommended. Quality workers equates to quality workmanship.
- Drug and Alcohol Program - Your current program may be providing you a comfort level as it relates to your core employees, but the potential of a new and unknown workforce will test your current drug and alcohol program to the limit. Have your legal representative review and provide feedback concerning the landscape of today's legal environment and revise and implement your program accordingly.
- New Hire Orientation, Safety Meetings – Site safety orientation and field safety meetings are not the safety department's responsibility. Field construction leaders should be front and center while communicating safety expectations to the labor force, especially when hiring new and inexperienced workers.

MEDICAL MANAGEMENT

The unprecedented rise in healthcare costs continues to soar and the effects on workers compensation (WC) insurance can be measured in tighter underwriting requirements, higher deductibles and increased premiums. Lost time accidents and indemnity claims were once the driving force behind WC costs, however we find industry trends showing the statistical divide has flipped, indicating the new cost driver is now medical costs. Companies need to develop policies and procedures to define the WC process and to direct the steps taken immediately after an injury occurs. Allowing the insurance carrier to lead the claims management process without your direct input is not the most effective practice.

MEDICAL MANAGEMENT CONSIDERATIONS:

- Senior management should call the injured employee on the day of injury and stay in touch constantly to assure them you are providing the best care available and that their job is secure as they heal.

- Review, revise and/or maintain your Return-to-Work policy and program. Be very aggressive in its process and implementation as defined by WC and labor laws.
- Panel of Physicians – Interview, negotiate and select medical facilities that meet your claims management philosophy and expectations. Replace providers that do not meet your objectives.
- Incorporate a triage system or nurse to immediately engage the injured employee to manage all provider appointments, diagnosis and follow-up care. This management philosophy is a hidden gem and one that should be seriously considered.
- Carefully review pharmacy, physical therapy, high end radiology (MRIs) and other specialize services as these tend to be more subjective in nature and are typically the most profitable for occupational medical providers.
- Fraud unfortunately is a reality, however implementation of the previous steps will help identify and/or reduce unlawful WC claims.

CONCLUSION

These are just a few "management" concepts that set the foundation of an effective safety program. Establishing company values and safety culture lie primarily with owners, senior management and project leaders. By executing this top-down management philosophy, influence will surely permeate through all levels of management and the labor force resulting in improved performance and more positive outcomes. BG

Jim Cottone is senior account executive for Alliant Insurance-Construction Services Group. Jim has been in the construction industry for over 30 years, working in various roles representing owners, contractors, brokers and insurance carriers. Jim holds a Bachelor of Science (BS) in Safety Sciences from Indiana University of PA and maintains a Certified Safety Professional (CSP) designation. He also is a Professional Member of the American Society of Safety Engineers (ASSE) and is a licensed Property and Casualty Resident Producer of Pennsylvania. He can be reached at Jim.cottone@alliant.com

INDUSTRY & COMMUNITY NEWS

MBA and MICA Awards Scholarships to Three

The Master Builders' Association (MBA) and the Construction Advancement Program (CAP) awarded three scholarships this year at the MBA's Annual Membership Meeting. The scholarship awardees were Taylor Williams, Thomas Tresky, and Amy Hummel. Collectively, the University of Pittsburgh School of Engineering's Construction Management/Civil Engineering Program students received $16,000. Taylor Williams is now working with Mascaro Construction Company and Amy Hummel is with Volpatt Construction Corporation. Thomas Tresky is completing his senior year at Pitt. Since the MBA & CAP teamed to provide annual scholarships in 1998, more than $160,000 in scholarships have been provided. This year's recipients were honored at the 2017 MBA Annual Membership Meeting, held on Friday, January 20, at the Duquesne Club.

The Master Interior Contractors Association (MICA) honored three construction apprentices with the "MICA Thomas L. Milletary Education Award." The three awardees were Matthew Chearney, a carpenter apprentice, Vinnie Romano, a taper apprentice, and Scott Degastro, a plasterer apprentice.

(From left) MBA/CAP scholarship winners Thomas Tresky, Taylor Williams and TEDCO's Jim Frantz, MBA Scholarship Committee chair. Missing: Amy Hummel.

MICA Board President Fred Episcopo (right) with (from left) Scott Degastro, Vinnie Romano and Matthew Chearney.

(From left) Jendoco's Bill Hawk, Dan Then, Katey Andaloro and Laleh Gharanjik.

(From left) George Germany from A. Martini & Co., Mike Tarle from AIM Construction and Massaro's Randy Hartsock.

John Petronic from A. Martini & Co. (left) with Reed Building Supply's Aaron Reed.

Craig Ream from Willis Watson Towers with Marsh's Rachel Playso and Michelle Wesolowski.

Gary Lotz from Dick Building Co. (left) with PJ Dick's Mike Roarty and Cliff Rowe (right).

(From left) Amy Hopkins from Morris Knowles, Amanda Piphos from AIM Construction and Blumling & Gusky's Brittany Bloam at the NAWIC Pittsburgh chapter celebration of National Women in Construction Day on March 8 at Roland's Seafood Grill.

Carson Publishing's Kevin Gordon (left) with Tim McLaughlin and Tripp Clarke (right) from 321Blink.

Michael McCormack (left), Alex Lees and Justin Yokaitis represent Facility Support Services at the 10th MBA Evening of Excellence, which drew more than 1,000 people to Heinz Field on February 23.

Allen & Shariff's Paul Messineo Jr. (left), Emily Landerman from A. Martini & Co. and Tom Schwartzmier from UPMC.

Joe Burchick with Connie Forte and Cathy Bergman (right) from Ameriserve/ERECT Funds.

(From left) Dick Building's Marlene Wall, Jeff Stoner, Jessie Johnson and Brittany Coscia.

Rycon's Danielle McCullough with Natasha Smith from PJ Dick.

Babst Calland's Rich Saxe (left) and Jim Miller with Glenn Sieber from Easley & Rivers (right).

W. G. Tomko's Bill Tomko (left) and Dan White with Eric Pascucci from PJ Dick (right) at the ASA's Annual Networking Event.

Kevin Byrnes from the Ironworkers International (left) with Marianne Karg from Mobile Medical and the IWEA's Bill Ligetti at the Ironworker Employers Association's annual safety recognition awards. Photo by Chris Crawford.

GBA's Cassie Guerin (left) and Aurora Sharrard flank Rich Overmoyer from Fourth River Economy at the GBA Inspire Series 2017 kickoff on Feb. 9.

Gennaro Dibella (left) from Schneider Downs with David McKamish and Naley McKamish at the 24th Annual NAIOP Pittsburgh Awards Banquet.

Jendoco's Domenic Dozzi (left) with NAIOP Pittsburgh Board President David Weisberg from BNY Mellon and LLI's Jamie White (right).

PenTrust's Tyler Noland, Landau's Steve Bishop and Sharon Landau at the IWEA Annual Awards Dinner.

(From left) Wyatt's Adam Ramsey, Jason Sigal from Rycon and Elmhurst's Todd McCaskey.

(From left) Hanlon Electric's Rachel Hienz, Terry Hanlon, Kevin Hanlon and Tom Hanlon III.

Burchick's Jaci Tully (left) and Dave Meuschke flank Babst Calland's Diane Krostyne and Vicki Landa.

Turner's Drew Kerr with Councilman Corey O'Connor (right) at the MBA YC Kickoff at Olive or Twist.

(From left) PJ Dick's Tara Noland, Brian Budny and Natasha Smith.

AWARDS & CONTRACTS

AIM Construction Inc. was awarded the renovation of the UPMC Shadyside Hospital waiting rooms. The project was designed by UPMC interiors department.

AIM Construction Inc. started work on UPMC Cranberry Place nursing home interior renovations in Cranberry Township. The $1.4 million project was designed by Radelet McCarthy Polletta Architects.

Volpatt Construction was awarded the contract for the St. Clair Hospital Nursing Unit 5A Orthopedics. VEBH Architects is the architect for the $2.4 million renovation.

The University of Pittsburgh awarded a construction management contract to **Mascaro** for the partial renovation of the first floor and mezzanine of the Learning Research and Development Center (LRDC) to recreate the Neuroscience Imaging Center (NIC), a research facility to house a 3T MRI and mock scanner.

Mascaro will be working in the University of Pittsburgh's Cathedral of Learning to renovate Floors 10 and 11 for multiple philosophy departments and Floor 17 for the Office of the Controller.

Mascaro's industrial group teamed with Layne Construction and were awarded a contract to construct an eight million gallon-per-day water treatment plant for Pennsylvania American Water Company in Wampum, PA.

Verizon awarded a contract to **Allegheny Construction Group** for the general construction portion of its Ambridge Central Office generator and basement HVAC replacement. The project was designed by LLI Engineering.

Allegheny Construction Group was selected by McKnight Realty Partners as contractor for its redevelopment of the historic Terminal Building at 333 East Carson Street. The project will have 500,000 square feet of office and 100,000 square feet of retail space. Indovina Associates Architects is the architect.

University of Pittsburgh awarded **Turner Construction** a contract for Scaife Hall Phase 1B. The architect for the $4 million renovation is Payette Associates.

Allegheny Health Network awarded **Massaro Corporation** the Perioperative Services expansion project, which includes a 14,000 square foot infill addition as well as a renovation to its post anesthesia care unit (PAC) and cardiovascular services area. The $8 - $10 million project architect is IKM.

UPMC Mercy Hospital awarded **Massaro Corporation** the MEP Infrastructure NRG Plant Tie-in project through an RFP process. Preconstruction is nearing completion with construction to begin shortly. CJL Engineering is the engineer for this multi-million dollar project.

Massaro Corporation was the low bidder for the Duquesne University's College Hall MEP upgrades project. Firsching, Marstiller, Rusbarsky and Wolf Engineering, Inc. is the engineer of record.

Western Pennsylvania School for Blind Children awarded **Massaro Corporation** the much needed bridge project for its facility in Shadyside. The bridge will connect the non-profits two buildings in order to create an easier and safer walkway for the school's students, faculty and staff. The project architect for this $3 million project is PWWG Architects.

The Pittsburgh Parking Authority named **Massaro CM Services** the owner's rep for the 9th and Penn redevelopment project, which includes a 700- to 1,000-car garage. Together with Massaro Properties, Massaro CM service's role with this endeavor will include working with the PPA to confidentially evaluate proposals submitted for the Redevelopment RFP; to assist the PPA with negotiating the development agreement; and to serve as the Owner's Rep during development.

Duquesne awarded **A. Martini & Co.** a contract to renovate its main food court during its May-to-August summer break. The architect for the $1 million project is LGA Partners.

A. Martini & Co. is the contractor for the new $2 million cigar bar, Burn by Rocky Patel, being built out at North Shore Place. NEXT Architecture is the architect for the nearly 7,000 square foot space.

Mosites Construction is the successful contractor for renovations to three buildings for the University of Pittsburgh Johnstown campus. The $3 million project includes work at Blackington Hall and the Buckhorn and Sunset Lodges. MacLachlan Cornelius & Filoni is the architect for Blackington Hall. JPT Architects is the architect for the Buckhorn Lodge and Sunset Lodge.

Chatham University awarded a contract to **Mosites Construction** for Eastside Phase 2 renovations. Rothschild Doyno Collaborative is the architect for the $1.1 million renovations to the former Eichleay Engineering building.

The U.S. Army Corps of Engineers awarded a $7 million contract to **Mosites Construction** for renovations to the Dashields Lock & Dam on the Ohio River, near Glenwillard and Edgeworth.

AWARDS&

Western Pennsylvania Conservancy awarded a contract to **Jendoco Construction Corp.** to serve as contractor for work at its High Meadows Garage at Fallingwater in Farmington, Fayette County.

Jendoco Construction was awarded a contract by Verizon for its IPTV project at the Seventh Avenue offices in downtown Pittsburgh. The project was designed by LLI Engineering.

Facility Support Services is providing general contracting services for facility improvements to Warehouse No. 4, Bay A at the Defense Supply Center Richmond, Richmond, VA. This $4 million teaching facility is for the Defense Acquisition University.

PREIT recently awarded **Rycon's** Building Group two contracts totaling $7.1 million. In Scranton, PA, work is underway on a new 23,000 square foot HomeGoods store at Viewmont Mall. In Harrisburg, PA, Rycon is converting a former box store into a new 58,000 square foot Dick's Sporting Goods at Capital City Mall.

As construction manager, **Rycon's** Building Group is completing $10 million of work for Federal Realty Investment Trust (FRIT) at The Shops at Willow Lawn in Richmond, VA. The scope includes demolition of existing stores to make way for a new AC Moore and Dick's Sporting Goods.

Rycon's Special Projects Group was selected as Dollar Bank's construction manager for their data center renovation at Liberty Commons. Strada is the designer.

A construction management contract was awarded to **Rycon's** Special Projects Group to fit-out floors 17 and 18 within Tower Two-Sixty for McGuireWoods. Work is slated to start in April. Gensler is the architect.

Over the past year, The Myers Y. Cooper Co. awarded **Rycon** three new PetSuites facilities totaling $8 million. The locations in North Carolina, South Carolina, and Georgia were designed by Tilsey + Associates Architects and average 20,000 square foot in size.

Rycon is nearing completion on the 9,000 square foot $2.1 million high-end interior build-out for City Works located in Miami, Florida.

In Cleveland, OH, **Rycon** recently started a $1.3 million medical office renovation for MetroHealth. Perspectus Architecture is the designer of the 16,000 square foot, 16-week project.

Rycon was awarded a contract for a new $7.2 million Progressive Insurance regional claims office located in Miramar, FL. The 37,700 square foot structure will be built using the tilt-up technique. Richard L. Bowen & Associates is the architect.

CONTRACTS

A new Ulta store, located outside of Tampa, FL was awarded to **Rycon** by DDR Corp. Expected to begin shortly the 10,000 square foot store is planned to open the second half of the year.

At the Master Builders' Association (MBA) Evening of Excellence on February 23, **Rycon** was presented the award for "Best Renovation Under $10 Million" for the Liberty Center Lobby project. A special thank you goes out to CBRE/Starwood Capital Group, Gensler, and all subcontractors on their hard work and effort.

UPMC Senior Communities awarded a $3 million contract to **Burchick Construction** to build six patio homes at its Sherwood Oaks community in Cranberry Township PA. Image Associates is the architect.

South Park School District awarded a $3,954,000 contract to **Yarborough Development Inc.** for the general construction portion of its $7.9 million Eagle Stadium and Recreation Complex renovations. The architect is HHSDR Architects and Engineers.

Penn State University selected **PJ Dick Inc.** as CM At-risk for the 215-car parking garage addition at its Erie campus. Weber Murphy Fox is the architect for the $5 million project.

FACES & NEW PLACES

Burchick Construction Company, Inc. announced its recent hire of **Jacquelyn Tully** as director of business relations. Jacquelyn graduated from Penn State University with a bachelor's degree in advertising and public relations. She will be supporting administrative and business development efforts.

Jessica Ramsey, estimating and small business coordinator, joined **Mascaro** on January 30. Jessica is a graduate of Saint Francis University and has a diverse background in construction that includes estimating and marketing.

Taylor Williams, a **Mascaro** co-op student since 2014, received the MBA/CAP 2016 scholarship award. The scholarship was presented to him at the annual dinner held on January 20, 2017. Taylor became a full time member of the build with the best team on February 6.

Chris Walko, who was last year's MBA scholarship winner, also became a full time member of the **Mascaro** team on February 6, 2017. Chris started as a co-op with Mascaro in 2014.

Anthony Guzzi joined **Independence Excavating Inc.** as project manager for the company's Wray Road project. Independence also added project engineers **John Guzak, Dylan Bongiorni,** and **Eric Peroli** to its team in support of various projects.

Justin Yokaitis joined **Facility Support Services, LLC** as project manager. Justin is responsible for managing Coury Financial Group's tenant fit-out in Tower 260 and River Vue apartments' outdoor lounge and sales office renovation. His work experience includes managing a large volume of commercial retail and residential renovations projects in New York City.

Rycon Construction announced **Michael Harwood** joined the Cleveland Division as vice president. With more than 30 years experience in the construction industry, Harwood began his career as an architectural designer, eventually working his way to the construction side as a project manager which lead to his role as senior director of construction with a national retail developer. Harwood is a graduate of Bowling Green State University.

Senior Project Manager **Ed Chapman** recently joined **Rycon's** Building Group. He holds a degree in Civil Engineering from Virginia Polytechnic Institute. Ed has 30-plus years experience in the commercial construction industry.

Rycon hired **Reid Cservak** as a project engineer in the Building Group. He's a graduate of the University of Cincinnati with a degree in Civil Engineering.

Carl Dehne joined **Rycon** Ft. Lauderdale's team as project manager. He's a graduate of Pierce College where he earned a degree in Construction Technology. Carl brings over 40 years of relevant experience to the team.

Rycon's Building Group welcomed **Stephany DelSignore** as an estimating assistant. Stephany received a bachelor's degree from Clarion University.

Paul Gash, graduate of University of Georgia, has been hired as a project manager at Rycon's Atlanta office. He has 20-plus years expertise in all facets of the industry.

Rycon's Special Projects Group hired **Justin Lamb** as a project manager. He spent eight years in the Marine Corps and served three tours in Iraq. He brings nearly a decade of industry experience to Rycon.

With seven years experience, project manager, **Jaime Ortez** has been added to the **Rycon** Ft. Lauderdale team. He is a graduate of ITT Technical Institute where he earned degrees in Construction Management as well as Drafting and Design.

Alex Rodriguez, LEED Accredited Professional and project manager, recently joined **Rycon** Ft. Lauderdale. He received a master's degree in Construction Management from Arizona State University and brings nearly 12 years industry experience to the team.

Bill O'Toole joined the **Rycon** Building Group as MEP estimator/coordinator. He brings over 30-plus years experience in the engineering, industrial, and commercial construction industry to the company. Bill's a graduate of Point Park University where he earned a degree in Electrical Engineering.

Rycon's Building Group has added **Dan Theis** as estimator. He went to Allegheny College for his undergraduate degree in Managerial Economics then attended the University of Alabama for his master's degree in Construction Engineering Management.

Rycon Atlanta hired **Brian Williams** as assistant project manager. Brian obtained a bachelor's degree in Graphic Communication Systems from North Carolina A&T State University and an associate's degree in Construction Management from Gwinnett Technical College. He has a background in architecture drafting and design with two years of experience in the construction industry.

PJ Dick Inc. hired **Daniel Greene** as estimator.

Congratulations to the 2016 MBA Building Excellence Award Winners!

Thank you 2017 Construction Industry Evening of Excellence Sponsors!

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Healthcare: Economic Engine or Economic Burden?

BY HAROLD D. MILLER

The healthcare industry has been good to Pittsburgh in many ways. It provides jobs for one of every seven workers in the region with wages higher than the regional average. Many construction jobs have been created by building new hospitals, expanding existing hospitals, and building or renovating outpatient facilities across the region.

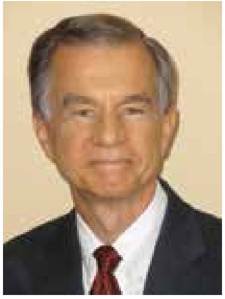
But where does the money to pay for all of those jobs and construction projects come from? One way or another, most of it comes from the wallets of the region's workers. Those who buy their own insurance see all too clearly how expensive healthcare has become, first when they pay large premiums and later when they pay even more to receive healthcare services. Those who get coverage through their employers pay indirectly by receiving wages and salaries that are lower than if insurance was less expensive. (Pennsylvania's average employer-sponsored family premium of $17,344 in 2015 was equivalent to 1/3 of average annual earnings in the Pittsburgh Region, and the $6,286 average premium for a single individual was more than 40% of earnings in a minimum wage job.) Nearly one-third of everyone's federal taxes and one-fourth of their state taxes pays for healthcare costs under Medicare and Medicaid.

The high cost of health insurance means communities have less money to spend on roads and other infrastructure and less money to invest in education and other services. Workers have less money to spend on other products and services, and that slows job creation and construction projects in other industries. Many citizens also face difficult choices between paying for health care and paying for food, rent, and other necessities. This is all getting worse every year, because healthcare spending is growing faster than inflation. Congress has struggled with how to improve access to health insurance, but insurance won't be affordable if we don't reduce the cost of healthcare.

The answer to high costs isn't to deny care to patients but to deliver care in a better way. Today, many people are hospitalized because their health problems are not being effectively managed, they experience treatment complications and hospital-acquired infections that could have been avoided, or they receive tests and procedures that simply aren't needed. Many others are receiving services they do need but the providers are inefficient or they charge far more than is necessary. The National Academy of Medicine has estimated that 30% of healthcare spending could be eliminated without harming patients. If we eliminate the unnecessary services and deliver the necessary services more cost-effectively, insurance would be more affordable and hundreds of billions of dollars in savings could be spent on other projects and services.

Innovative healthcare leaders around the country, including the Pittsburgh Regional Health Initiative, have shown that providing more services to patients in their homes or communities rather than in hospitals can not only reduce spending but achieve better outcomes for patients. For example, better home support for patients with chronic diseases such as heart disease and emphysema results in fewer emergency room visits and hospitalizations; better care in community oncology practices results in fewer cancer patients needing to be hospitalized for complications of chemotherapy; and more effective use of physical therapy reduces the need for risky and expensive back surgery.

Projects that reduce the need for hospital services can achieve big savings because hospital services are the largest single component of healthcare spending and the biggest cause of the growth in total spending in recent years. But fewer hospital services means that many communities won't need as many hospital beds in the future. The impact will be bigger in Pittsburgh than in most regions because southwestern Pennsylvania has more hospital beds per capita than most regions in the country, residents here are hospitalized more frequently than in other regions, and Pittsburgh is one of only two major regions in the country that continues to lose population.



Harold Miller

The affordability and quality of healthcare is determined locally, not in Washington, DC. Continuing to deliver and pay for care as we have in the past may result in more jobs in healthcare, but fewer jobs and lower wages in every other industry. Although the Pittsburgh region's large healthcare sector helped soften the blow from the 2008 recession, it hasn't boosted the regional economy during the recovery. Over the past four years (2012-2016), the number of jobs in the Pittsburgh Region increased by only one half of one percent (0.5%), the slowest growth by far among the 40 largest regions in the country.

Redesigning care delivery to focus more on primary care and home care and less on hospital care would boost the region's economy, not harm it. Reducing spending on hospital services would allow lower insurance premiums, make businesses more competitive, and allow more investment in infrastructure and other projects. Moreover, one of the best ways to attract more jobs and families would be to offer more affordable healthcare than other regions. BG

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