

BreakingGround

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA

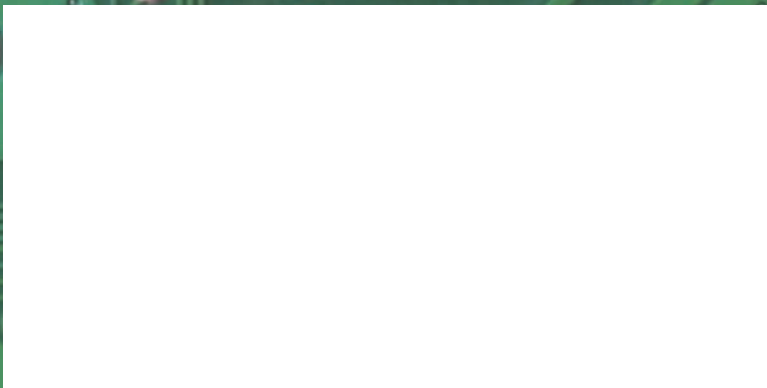
JULY/AUGUST 2009

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MBA

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Publisher's Note

I've found myself increasingly occupied with thoughts of economic recovery of late. As I researched the economic factors that effect construction and real estate to make an educated forecast about the market for the second half of 2009, I was struck by how many opinions about the economy are now available on the Web. What I discovered was that the amount of doom saying out there in the economic and business media has made it difficult to analyze the status of the recession/recovery dispassionately, especially since the signs are beginning to turn positive.

In the weeks prior to the printing of this edition of *BreakingGround* the economic news began to shift decidedly more positive in direction. Not good, mind you, but more positive. Unemployment dropped significantly, factory orders increased, corporate purchasing managers' sentiment went positive, and some of the housing news involved better performance than last year. It will be months before we can gauge this as a turn or just a stop off before another leg down, but the news machine doesn't have the luxury of patience.

The media are in an interesting position right now. Since Watergate was being reported in the *Washington Post*, no journalist seems willing to pass up a good crisis without giving it undue weight (in fact, you can tell how far along the reporting is when the crisis gets its unique "-gate" suffix). The business reporters rarely get to dig up such sexy stuff as the political beat, but they can match the political writers word for word in the doom department. And right now, there is almost no conclusion that a business reporter could draw that you can legitimately consider too crazy, especially after so many of the 'crazy' reporters were predicting that a financial meltdown was due about this time last year.

The week of June 22 produced two articles that juxtaposed two somewhat different takes on where the financial crisis stands.

The Harry Schultz Letter is a stock-picking newsletter with a burnished reputation of late because it accurately predicted a 'financial tsunami' last summer. Based on some intelligence that certain foreign embassies are being told to quietly buy a year's supply of that country's currency, the Schultz Letter now predicts that a bank holiday is in the offing. Their conclusion is:

"Another FDR-style 'bank holiday' of indefinite length, perhaps soon, to let the insiders sort out the bank mess, which (despite their rosy propaganda campaign) is getting more out of their control every day. Insiders want to impose new bank rules. Wide-

spread nationalization could result, already underway. It could also lead to a formal U.S. dollar devaluation, as FDR did by revaluing gold (and then confiscating it)."

Newsweek's edition that week featured an article by Fareed Zakaria, entitled 'A Capitalist Manifesto' that offered the opinion that the world was not spinning out of control. He pointed out that similar financial crises had occurred every decade or so, and that each crisis had spawned reasoned predictions that finance as we knew it was over, each prediction also proved to be wrong. His theory is that capitalism isn't in crisis, just finance for a while.

Finance has a history of messing up, from the Dutch tulip bubble in 1637 to now. The proximate causes of these busts have been varied, but follow a strikingly similar path. In calm times, political stability, economic growth and technological innovation all encourage an atmosphere of easy money and new forms of credit. Cheap credit causes greed, miscalculation and eventually ruin. President Martin Van Buren described the economic crisis of 1837 in Britain and America thusly: "Two nations, the most commercial in the world, enjoying but recently the highest degree of apparent prosperity and maintaining with each other the closest relations, are suddenly plunged into a state of embarrassment and distress. In both countries we have witnessed the same [expansion] of paper money and other facilities of credit; the same spirit of speculation, the same overwhelming catastrophe." Obama could put that on his teleprompter today.

I think Zakaria's a pretty smart guy. Apparently so do Yale and Harvard (where he got his PhD). His analysis of the Iraq War has been a little spotty, and his economic credentials aren't as strong as his political credentials, but his theory that this crisis will end as all the others in American history, with a recovery, is probably going to be correct.

At least for the near term, I'm going to try looking at the economic data without reading the hyperbole of the analysts. Just in case there is a recovery, I want to be ready for it.



Jeff Burd

News From The Street



The Economist list of the world's most livable cities.



Brookings Institute Metro Monitor ranking of healthiest regional economies.

More Top Rankings for Pittsburgh (And This Time It's From Eggheads)

The *Economist* ranked Pittsburgh America's most livable city. British magazine's ranking comes weeks after President Barack Obama chose Pittsburgh to host the G-20 Summit in September, calling it a symbol of economic recovery. Globally, the *Economist* survey ranked Pittsburgh 29th most livable, and the city ranked first among all U. S. cities. Vancouver, Canada topped the list. The magazine considers stability, health care, culture and environment, education and infrastructure.

The Brookings Institute listed Pittsburgh among the twenty cities faring best in the current recession. The Brookings Metropolitan Policy Program released its annual MetroMonitor, an interactive barometer of the health of America's metropolitan economies. Based on the year ending March 31, 2009 the MetroMonitor looks "beneath the hood" of national economic statistics to portray the diverse metropolitan landscape of recession and recovery across the country. It aims to enhance understanding of the underpinnings of national economic trends, and to promote public and private-sector responses to the downturn that take into account metro areas' unique starting points, weaknesses, and strengths—the potential "grass-roots green shoots"—for eventual recovery.

DHS to Focus on Prosecuting Employers Who Hire Illegal Workers

Earlier this month, the Department of Homeland Security (DHS) announced a shift in its workforce enforcement priorities from the prosecution of illegal aliens working in the United States to the prosecution of employers who knowingly hire them. According to a fact sheet distributed by DHS, only 135 of 6,000 arrests related to worksite enforcement in 2008 were employers. As a result, DHS issued new

guidelines to Immigration and Customs Enforcement (ICE) with instructions to immediately "focus its resources in the worksite enforcement program on the criminal prosecution of employers who knowingly hire illegal workers in order to target the root cause of illegal immigration." Employers - defined in this context as hiring managers, management, owners, CEOs, supervisors and other occupational titles - can expect ICE offices to use their full authority when executing investigations such as the use of confidential sources, cooperating witnesses and undercover agents.

House Bill 400 Passes House

Earlier this month, HB 400 passed the House. This bill is intended to assure that employees in the construction industry are correctly identified as either employees or independent contractors; and it imposes penalties for those that misclassify. Prior to passing the House, the General Contractors Association of PA stressed the importance of this issue, as unlawful contractors misclassify their workforce resulting in lost tax revenue, higher workers' comp premiums, illegal profits and an uneven playing field against those that abide by the rules. This bill currently sits in the Senate Labor & Industry Committee.

Construction Legislative Council Appoints New Executive Officers

The Construction Legislative Council of Western Pennsylvania (CLC) announced the election of its officers for the 2009/2010 calendar year:

Chairman: Joe Fecek, *American Society of Civil Engineers*

Vice-Chairman: Paula Maynes, *American Institute of Architects, Pittsburgh Chapter*
Treasurer: Michel Sadaka, *Pennsylvania Society of Professional Engineers*

Secretary: Jon O'Brien, *Master Builders' Association of Western PA*

The CLC is a multi-discipline coalition of 13 construction industry organizations, representing the interests of thousands of contractors, architects, engineers, owners and material suppliers from Western PA. The CLC's primary purpose is to advance an informed dialogue with elected leaders and policy makers who will advance the economic and political interests of the construction industry. For more information on the CLC, visit www.clcpa.org.

GREEN BUILDING NEWS

GBA Office is Western PA's First Platinum Project

On June 26, the United States Green Building Council officially awarded LEED Platinum certification for the new Green Building Alliance office renovation project at the Riverwalk Corporate Center. The 3,850 square foot project was built by Jendoco Construction Corp. and designed by Landmarks Design Associates. In addition to being the first LEED Platinum project in Western PA, the project is also the first LEED Commercial Interiors Platinum project in all of PA, and the first USGBC chapter office to be certified Platinum.

"I am thrilled to be part of an organization that not only strives to make this region a beacon of green building best practices, but that also continues to push the boundaries of what we can accomplish in the green building arena," said Holly Childs, GBA's executive director. "It is critical that we continue to devise ways to build, renovate, operate and maintain buildings in a more economically, environmentally and socially beneficial manner."

On hand to present the plaque designating the LEED certification were USGBC President Rick Federizzi and USGBC Sr. Vice President Rebecca Flora, who lead the renovation project while Executive Director of the GBA.



Rebecca Flora (left) presents GBA's Holly Childs with the USGBC Platinum plaque.

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New attorneys expand strength of
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BCCZ is pleased to announce the addition of four new attorneys to our Construction Services Group—Richard Kalson, David White, Richard Saxe and Lauren Rodriguez. Rick, Dave, Rich and Lauren collectively have more than 40 years of experience serving the construction industry, giving BCCZ's Construction Services Group even greater depth and breadth in the region.



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Massaro Corporation Addition Awarded LEED Certification

Holly Childs, Executive Director of the Green Building Alliance, presented Joseph Massaro III, President & COO of Massaro Corporation with the plaque designating the company's 8,100 square foot addition as LEED Certified. The addition to the corporate headquarters was completed in January of 2008. For more information on the building's sustainable features, please visit the company website at www.massarocorporation.com



GBA's Holly Childs presents the USGBC LEED certification plaque to Joe Massaro III at the company's headquarters.

U.S. House Approves Legislation to Modernize & Green America's Schools

On May 14, the U.S. House of Representatives overwhelmingly approved legislation to modernize, upgrade and green America's schools by a vote of 275-155. The 21st Century Green High Performing Public School Facilities Act (H.R. 2187) invests billions of dollars in school repair and renovation projects that would create safer, healthier and more energy-efficient learning environments for students.



GBA/MBA Host LEED 2009 Seminar

Join the Green Building Alliance and the Master Builders' Association's breakfast briefing on the recent changes to the LEED Rating System. Register today to learn about the recent changes in LEED and the new process for obtaining and maintaining LEED Green Associate & LEED Accredited Professional credentials.

The seminar will be held at the MBA's new headquarters, a LEED registered facility that is on course for a Gold Certification under the LEED Rating System.

Seminar details:

Breakfast Briefing: LEED 2009 Rating System and LEED AP Credentials Update

When: Tuesday, July 21

Where: Master Builders' Association of Western Pennsylvania

631 Iron City Drive, Pittsburgh, PA 15205

Time: 7:30-8:00 a.m.: Continental breakfast and registration

8:00-9:30 a.m.: Program

Cost: \$35 for GBA and MBA members;
\$45 for Non-members

Speaker: Aurora Sharrard, PhD, LEED AP, Research Manager, GBA

Attendees can register via the internet at https://secure.gbapgh.org/gba_oreg/index.cgi/eventspage or by mail by sending the names of registrants and checks made payable to the Master Builders' Association to:

Master Builders' Association of Western Pennsylvania
631 Iron City Drive
Pittsburgh, PA 15205

Phone - 412-922-3912

Fax - 412-922-3729

Web - <http://www.mbawpa.org> 

REGIONAL MARKET UPDATE

Let's call it the year of the \$30 million job.

When the year began, the region was feeling the aftershocks of the financial earthquake that had rocked the rest of the world. The outlook for 2009 was for a lot of dollars to be put under contract, but the problem was that a few big jobs were going to account for almost two billion dollars. That left a lot of businesses chasing very little business remaining. There seemed to be little hope for the \$20 million to \$50 million projects that seemed to pop up like dandelions in the past three or four years.

At mid-year, the reality couldn't have been more different from the forecast.

The contracting volume through the first six months has been less than impressive, approximately \$1.3 billion in the seven county Metropolitan Statistical Area, but that volume includes a significant second quarter recovery. Contracting in quarter two was approximately \$800 million, and was marked by bids on a handful of projects worth right around \$30 million. Included in those were the Dupre Science Center at St. Vincent's College, the North Shore Station finishes contracts, the K & L Gates tenant work downtown, and the Robinson Court Fields/Olympic Complex at Pitt.

What wasn't in the total that was expected to be were any of the big industrial projects that had been announced in 2008. The USS Clairton Works upgrade, reportedly worth \$1 billion was shelved indefinitely while steel plant capacity plunged to 40 percent or less. Not shelved, but moving much slower, were the \$1.2 billion Allegheny Ludlum project in Brackenridge and the \$200 to \$400 million project at AK Steel in Butler. All of these were victims of the global recession, although the Allegheny Ludlum project appears to be at least an even bet to get underway this year.

Also in the industrial sector, the recessionary forces were tamping down natural gas prices, putting a damper on all the once red-hot plans for facilities tied to Marcellus Shale exploration. The mid-year rise in energy prices hadn't lifted natural gas prices quite as high as oil and diesel, but the outlook is more rosy, and the unfavorable hedge positions have worked through the producers' balance sheets. Drilling activity has picked up in the second quarter and plans have been revived for the third phase of the gas processing facility in Houston, PA and the \$300 million distribution and processing plant proposed by MarkWest for Majorsville, in Washington County.

At the beginning of the second quarter there were more of the \$30 million projects out for bid, along with a few even larger. Bidding was in process for the University of Pittsburgh's \$32 million Chevron Science Center

expansion, a \$30 million project at Upper St. Clair's Boyce Middle School, a \$55 million convocation center at California University, and the new \$80 million Bethel Park High School.

Outside the immediate metropolitan Pittsburgh market were three prison projects worth roughly \$17 million each at Cambridge Springs, Indiana and Marienville, and the \$200 million expansion of the State Correctional Institution at Rockview, east of State College. In Grove City, the new \$20 million middle school was being bid.

As the quarter wound down there were also the first signs of ARRA money being put to work in the region. Accelerated bidding had worked about 40 percent of PennDOT's additional stimulus funding through the pipeline. The PA Turnpike Commission let an unusually large project in June, the reconstruction of the roadway between mileposts 31 and 37 in Allegheny County, between Cranberry Township and Hampton Township. The \$113 million section was awarded to Joseph B. Fay Co.

As encouraging as the bidding activity is, the recent upward trend in proposal requests for architectural services is equally positive. While the government's share of this has helped push the action, private developers may be coming off the sidelines.

Architect Bob Grubb, partner at Lami Grubb Architects, says their practice has seen a change in sentiment from the private owners. "We are starting to see developers looking down the road towards next year, and saying that they want to be ready for things when they turn around."

That sentiment is being tested on the national level as private investment advances and retreats in the stock market, and a number of equity markets, including real estate. The real estate developers who make the most hay during a recovery are those who put their projects on track during the later stages of the recession. The trick, of course is judging the recession's staying power. One developer with Pittsburgh ties is cautiously proceeding with his project as though a recovery is beginning, and he's counting on the relative strength of Western PA to carry him even if the national economy doesn't rebound so quickly.

Kevin Dougherty was a partner in Michael Joseph Development in Wexford during the 1990's, and relocated to the Raleigh area to found AdVenture Development earlier this decade. AdVenture is moving ahead with McCandless Crossing, a million square foot mixed-use project along McKnight Road near Passavant Hospital and LaRoche College. He sees this market as a bright spot in his portfolio.

"We're looking at other markets – Charlotte, Raleigh, eastern North Carolina and Virginia – which are all pretty slow right now," Dougherty says. "Thank goodness we're working in Pittsburgh or we may not have anything going right now."

Like the larger economy, growth in Pittsburgh's real estate market will depend on how the job market behaves over the next six to twelve months. The most recent evidence suggests that the national unemployment trend may be moderating, which is great news for a region like Western PA, where unemployment has remained a couple percent lower than the rest of the country. Pittsburgh's current strong economy is built on a lot of jobs that the Labor Department didn't know how to count in the first place, so it's conceivable that the employment picture is even better here than is being reported.

For private sector investment to escalate again to the level that government spending is approaching there will have to be a rebound in development related to a perceived improvement in consumer spending. AdVenture's project, which will have as much as a half-million square feet of retail, along with the Settler's Ridge project in Robinson Township, are advancing with the belief that retail spending in Pittsburgh won't soften significantly from the current levels. No other large retail projects, like Southpointe Town Center or Newbury Market for example, are moving forward with any speed this year.

A rejuvenating stock market will also have a beneficial impact on some of the strongest sectors of the region's construction industry, especially for hospital and higher education projects. Diminished endowments have frozen capital expenses at the region's two biggest private construction spenders, Pitt and Carnegie Mellon. Reduced investment performance also doused the capital plans of UPMC, which has projects ranging from a new tower at Mercy Hospital to the Reidbord/Hillman Cancer Center to an \$800 million vaccination plant, in the hopper. Improvements in investment performance will re-energize these kinds of projects, although the impact is likely to be felt in 2010 rather than this year.

One sector of the regional market that is not uncertain is new housing construction. After falling more than 20 percent in 2008, the volume of single-family detached housing is off even further in the first half of 2009, declining almost 35 percent year-over-year. Total housing units are down 25 percent compared to last year. With low rates, and reasonable inventory levels, the explanation for the drastic drop is shrinking demand. With virtually no spec building occurring, the low amount of new residential construction in the first part of the year is a direct reflection of the deep economic concerns of even Western Pennsylvanians.

While it seems unlikely that the housing market could fall further in the second half of the year, especially in light of the collapse in fourth quarter 2008, the same could have been said at this time

last year. A reasonable forecast of single family construction for all of 2009 would be around 1,700 units, or less than half of the high water mark in 2003.

While the region's economy seems to be much less fragile than the national situation, a rebound in construction and real estate action in Western PA will depend on the perception of a continued recovery at the national level, with signs that employment losses have ended later this year. Falling investment portfolio values and slumping consumer sentiment will cool off plans for regional projects.

Assuming that the global economy, and particularly the financial markets, have at least stabilized, the second half of 2009 will bring contracting more in line with the second quarter's action. Another handful of \$30 million projects are expected to get underway, and it's likely that one of the large industrial projects will move ahead this year. With some increased institutional contracting later in the year, volume could still eclipse the \$3 billion level, and the spread of the projects may help ease some of the hyper competition that has marked the first half of 2009. **BG**

YEAR-OVER-YEAR HOUSING STARTS

Allegheny, Beaver, Butler,
Fayette, Washington, Westmoreland County

	SFD	SFA	Total
Jan-June 2008	1151	641	1792
Jan-June 2009	750	580	1330
% Change	(34.8%)	(9.5%)	(25.8%)

Building permits issued for single-family detached (SFD) & attached (SFA) units, actual issued in 2008 vs. estimated 2009 permits. Source Tall Timber Group.

NATIONAL MARKET UPDATE

Getting a handle on how the national economy is going to effect construction and real estate for the remainder of 2009 has become less difficult since the second quarter played out. That doesn't mean that forecasts (this one included) still won't miss the mark, but the course of the macro economy finally seems to have some definition, which means the course of the construction market will be more predictable hereafter.

May's economic numbers offer the most recent total picture we have to judge the health of the overall economy, but virtually all indicators are that the worst results of the recession have occurred and that either stability or recovery will mark the third quarter.

To highlight a few of the indicators that have turned positive (or less negative), we can look first at the Conference Board's Leading Economic Index (LEI), a measurement of ten indicators (including building permits) which tend to predict future economic direction. The LEI turned sharply positive after March, and is up 1.2 percent for the past six months, the first such six-month climb in two years. Another key positive trend is home sales, which have been slightly positive for both new and existing homes since January. While not a big upward move, the positive trend, accompanied by low housing starts, is beginning to erode the excess inventory of unsold houses. Further good news on housing was that the first two national builders to report quarterly earnings, KB Homes and Lennar, touted significant increases in orders in May.

The Commerce Department reported that durable-goods orders rose 1.8% in May, contrary to analysts' expectations for a slight retreat. A gauge of capital spending in the report also jumped, and orders for non-defense capital goods excluding aircraft rose by 4.8%, after decreasing 2.9% in April. It was the largest increase since 8.2% in September 2004.

Some early mid-year indicators are also showing more stability, if not growth, in the business sector. The service sectors of the U.S. economy contracted at a slower pace in June, the Institute for Supply Management reported July 6. The ISM nonmanufacturing index rose to 47.0% from 44.0% in May. The decline was better than expected. Economists were looking for the index to rise to 46.0%. Anthony Nieves, chair of the ISM services survey, said the report was "encouraging." The business activity index rose to 49.8% in June from 42.4% in the previous month. New orders rose to 48.6% from 44.4%. The employment index rose to 43.4% from 39.0%. Inflation pressures picked up. The price index rose to 53.7% from 46.9% in the previous month.

For consumers, there is a mixed bag of indicators that effect construction. The best news is that the pace of unemployment seems to have slowed significantly. The number of initial claims dropped by several hundred thousand in May. Continued slowing in layoffs would back up the LEI's trend showing recovery. Perhaps the firming employment picture is borne out in the reversal of the decline in consumer spending since January, however the level of spending is still below \$10 billion monthly, and well below the spending levels of 2007.

The most difficult indicator to use as a gauge is the savings rate. On the good news side of the ledger is that personal savings has spiked in the last three quarters, currently at around seven percent. This reversal in trend was needed to provide consumers the opportunity to reduce their debt burden, so that a healthier economy could return. The bad news is that personal savings has spiked in the last three quarters, meaning that consumers are paying off past purchases instead of making new ones. And that is not good for the nation's retailers.

One of the bellwethers of future construction is retail. Second to increased housing starts, it is always a good indicator when retail chains begin to grow their capital expenditures in anticipation of a recovery, much like the stock market anticipates recovery. The size of the investment in a new store represents a sufficient risk on the part of the retailer that they tend to research the market conditions thoroughly, and consequently, increased retail capital spending always predicts increased construction spending in general.

The current retail climate is improving, at least in terms of earnings, but that is a result of reduced costs rather than better sales.

"We're looking at difficult conditions until at least spring of 2010," says Brooks Brothers president Diane Hamilton. "I think we'll see things begin to eke out small increases, maybe one or two percent, in comparable stores sales throughout 2010, but beyond that it's hard to see much more than three or four percent growth. Most retailers are down 25% from last year, so it will take a while to recover at three to four percent."

Construction of retail space began to tail off more than a year ago, and as is cyclically normal, activity in other non-residential sectors is now following a downward trend.

The latest data from the two national construction services, Reed Construction Data and McGraw-Hill Construction, show upbeat May numbers in counterbalance to pretty dismal year-to-date performance. For the first five months Reed shows a decline in total nonresidential starts of 6.1%, and while May was up from April, the volume in May was 20% lower than May 2008.

"The May starts increase partly offsets an unusually weak April but does not signal that starts have moved to a rising trend," says Reed chief economist Jim Haughey. "Expect a mix of monthly gains and losses for the balance of the year, with the average level of starts not significantly different from May." Haughey noted that credit problems will continue to plague commercial contracting and that state deficits will dampen public works construction that is not supported by the stimulus.

McGraw-Hill's data showed a jump in starts of 7% in May, but an even more severe decline year-to-date, with 38% lower start volume than the first five months of 2008.

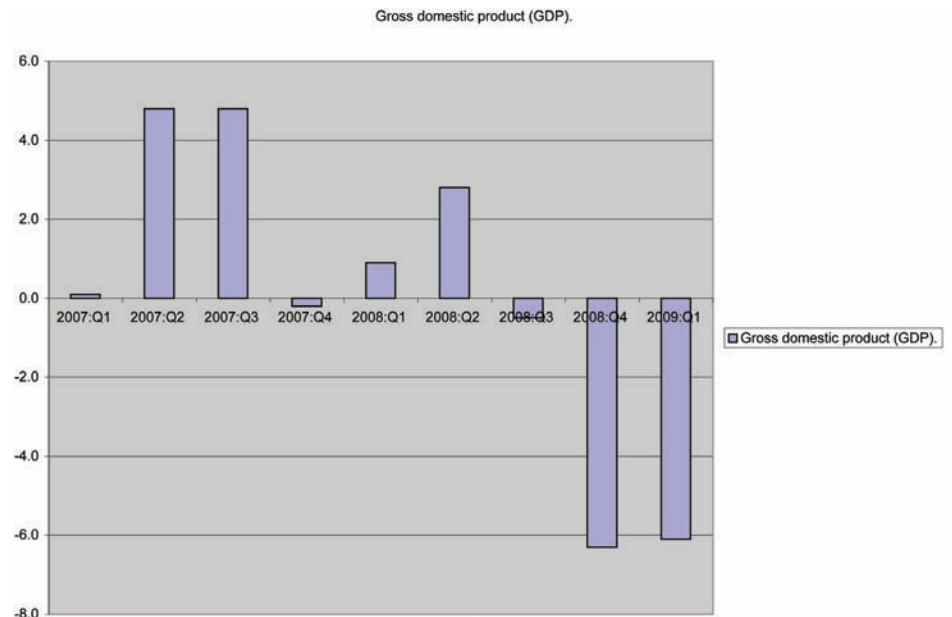
"May's strengthening was lead by a substantial increase for public works," stated Robert A. Murray, vice president of economic affairs for McGraw-Hill Construction. "Meanwhile housing stayed flat and nonresidential building resumed its downward trend after the brief upturn reported in April. For nonresidential building, there's been the occasional display of resilience by such institutional structure types as healthcare facilities and public buildings, but the downward trend for the commercial structure types is still very much underway."

Both firms reported gains in non-building construction in the range of 1-2%. While that is almost negligible in terms of all construction spending, it's worth noting that the non-building sector would likely be down between two and ten percent without the American Recovery and Reinvestment Act (ARRA), since almost all state and municipal owners are looking to fill budget deficits with lower spending on all fronts. More noteworthy is that the stimulus related spending is entering the marketplace much quicker than anticipated, meaning that the salutary effects that are expected on employment will be felt sooner than expected.

One other impact that ARRA is having sooner than was hoped for is in stabilizing a troubled sector of the financial markets that has made public construction difficult since fall, the municipal bond market. As the markets melted in fall 2008, so few bidders existed for municipal bonds that yields skyrocketed, making public construction less affordable.

Part of ARRA, the Build America Bonds program offers a 35% rebate from the Federal government to issuers on their interest payments. The rebate is meant to bridge the

The Department of Commerce amended its first quarter loss in gross domestic product, validating that a recession had created two consecutive quarters of decline.



gap between the lower rates that could be offered tax free, and the higher taxable rate that would be attractive to investors. This means that public authorities can offer higher rates on their debt than they typically would be able to afford, and so take their offerings into the taxable bond market.

For taxable bond investors, the attraction is diversification as municipal bonds, which offer relatively low risk, are an area that they rarely have exposure to.

The figures show how Build America Bonds are having the desired impact. Through the end of May, the number of new issues in the tax-free market has dropped 17% compared to the year-ago period, according to The Bond Buyer. In the same period, the number of taxable issues has risen 32%. The numbers are even more dramatic for May alone, as the Build America Bonds program really started to take effect. Compared to May 2008, tax-free issues fell 40% while taxable issues were up 56%.

The growth in bond-funded public construction will help with schools, parks and public transportation, while the non-building construction market will be aided directly by infusions from ARRA, in some states (like PA) increasing investment in infrastructure by 100% year over year. For the remainder of the construction industry, however, the rest of 2009 will likely be a period of further soft conditions while demand is rebuilt and oversupply is absorbed. **BG**

WHAT'S IT COST?

The conflicting forces of rising commodity prices and declining demand are pushing and pulling the prices of selected basic construction materials and building products at mid-year, but the overall cost of construction remains relatively unchanged over the past six month period.

As the second quarter produced the first signs of economic hope in a while, and sparked a rally in the stock market, prices of energy commodities began to rise along with the hope that demand would begin to grow. From the low point of \$34 per barrel in late February, the price of West Texas intermediate crude rose to \$72 per barrel by mid-June, before falling a few dollars as June ended. Likewise, the cost of highway diesel rose from a March low of \$2.02 per gallon to \$2.50 per gallon during the same period. While the rise was significant, both higher levels were roughly half that of their mid-2008 peaks.

The culprit for the increased cost can be attributed to a degree to improving demand, but there again seems to be an inordinate amount of speculation, particularly in crude oil, that is driving the price higher than demand merits. Like summer 2008, energy demand will be tested by the impact the faltering economy might have on vacation spending.

Consumers responded to the steep prices in 2008 by keeping off the highways in summer. There is ample anecdotal evidence to suggest that Americans are becoming inured to paying more than \$2 per gallon at the pumps, but this summer the higher unemployment (or the fear of coming unemployment) seems to be having an even bigger negative impact on summer travel. Rental property vacancies are much higher in summer 2009, airline capacity has declined further, and if this is the summer trend the result should be another fall decline in oil and diesel.

In the meantime, the recent run-up is having an effect on transportation costs, lubricants and energy costs in manufacturing.

Prices for steel have risen, as increased energy costs, better export demand and growing domestic demand for bridge and highway construction come up against dramatically reduced manufacturing capacity. As an industry, steel plant capacity is hovering near 40%, a level that has resulted in shutdowns rather than cutbacks. So, while steel demand is up for construction, the severely depressed demand for automotive and consumer product steel means that steel makers will not be expanding capacity, and upticks in construction demand will mean higher prices.

Reports in the Data DIGest, a weekly update from AGC chief economist Ken Simonson, tell of structural steel shape bids varying between \$2,200 and \$3,200 per ton within the same month, and of 5% to 7% price increases in rebar and stainless steel.

Other materials that are being impacted by higher energy costs or the increased demand from infrastructure projects recently are cement, asphalt (up 3.5%), and copper (up 1%). Some of the basic materials that have seen lower demand mostly due to repressed housing activity, continue to see price erosion in spite of the rise in oil and diesel costs. Among these are plastics (down 1%), gypsum products (-2.4%) and lumber and plywood (-.9%).

Absent a strong change in the overall economic trend prices will remain in the same range as the first part of the year throughout the rest of 2009. Summer demand should hold diesel prices above \$2.40 per gallon, and demand for diesel and related refined products like road oil and asphalt paving should grow significantly as the ARRA 'bubble' becomes a reality in the late third quarter. Planning around a Labor Day peak for these and other infrastructure products would be a good idea.

PERCENTAGE CHANGES IN COSTS

	MAY 2009 COMPARED TO —		
	1 mo.	3 mo.	1 yr.
Consumer, Producer & Construction Prices			
Consumer price index (CPI-U)	0.3	0.8	-1.3
Producer price index (PPI) for finished goods	0.5	0.4	-5.0
PPI for construction	0.6	-0.4	-5.3
Costs by Construction Types			
Highway and street construction	2.1	0.9	-10.8
Nonresidential buildings	0.6	-0.3	-5.9
New warehouse construction	-0.4	-0.8	5.7
New school construction	0.0	0.4	11.5
New office construction	0.3	-0.5	6.4
Multi-unit residential	0.2	-0.7	-3.8
Single-unit residential	0.1	-0.9	-1.0
Costs for Specific Construction Inputs			
#2 diesel fuel	4.4	14.6	-58.1
Asphalt paving mixtures and blocks	3.5	-1.5	11.7
Concrete products	-0.1	-1.3	2.1
Brick and structural clay tile	-0.6	-1.2	-0.5
Plastic construction products	-0.1	-0.5	1.7
Gypsum products	-2.4	-2.5	4.2
Lumber and plywood	-0.9	-3.4	-13.8
Architectural coatings	0.0	0.1	12.4
Steel mill products	-2.7	-9.5	-33.8
Copper and brass mill shapes	0.8	21.4	-25.1
Aluminum mill shapes	1.4	-2.2	-23.7
Fabricated structural metal	-1.6	-3.6	-8.1
Prefabricated metal buildings	-0.7	-6.5	-7.1
Crude petroleum (domestic production)	18.6	68.5	-55.1
Cement	0.0	0.9	0.5
Iron and steel scrap	18.8	-3.8	-62.0
Copper ore	18.4	36.0	-43.0

Source Bureau of Labor Statistics. Compiled by Ken Simonson, Chief Economist AGC

COST/SF	BUILDING TYPE
\$400-450	BANK
\$370-400	HOSPITAL
\$350-375	AUTO SERVICE
\$200-275	LIBRARY
\$160-200	HIGH SCHOOL
\$150-170	HOTEL/MOTEL
\$140-160	POLICE/FIRE STATION
\$130-135	RETAIL OWNER OCCUPIED
\$90-105	OFFICE CORE & SHELL
\$65-120	INDUSTRIAL
\$48-55	FLEX OFFICE
\$45-90	RETAIL FIT OUT
\$45-50	PARKING GARAGE
\$38-60	INDUSTRIAL WAREHOUSE
\$30-48	RETAIL SHELL

Cost ranges for selected building types in Western PA, based on 2009 contracting. Source Tall Timber Group.

Beyond the demand from stimulus driven construction, there are not many places where building material and product demand should grow.

In the Pittsburgh region, costs for construction have been at or slightly below the levels seen in the later months of the 2008 building season. Labor costs have remained at or slightly above the levels in 2008, and the carryover from the large construction projects should ensure that these costs will not decline during the remaining months of 2009.

The table on the left shows the cost ranges for selected building types since the beginning of the year. Overall, costs are trending slightly lower than in 2008. Generally speaking, private construction seems to be running 5% lower, while public construction projects have been 10% or more below similar unit prices from 2008, although that seems to be varying with the kind of project, and it's a little too early to judge how those publicly bid contract amounts will hold up through the project. In competitive environments like we are currently experiencing, privately funded work is usually negotiated or bid to a limited group of contractors, and the prices at the time of bidding hold up through closeout. Public projects will attract more bidders in tighter markets (like the first half of 2009), and historically, the bid day price tends to be augmented by more change orders and claims than private work, where there is a sense of client that isn't recognized in public projects. **BG**

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Where Technology



is Taking Us

In the parlance of economic development the word technology is almost always used to mean high technology, meaning emerging technology that can be turned into jobs. However trite the political leaders tend to make the concept of high technology as a source of new jobs, we in Western PA understand fully the proof of the concept.

As the world roils with the storm of the recession that took root last year, Western Pennsylvanians could be forgiven for not fully understanding what the fuss is all about. For the past year, our region has been noted as being a place that is as resistant to recession as can be by countless business and academic groups. The recognition is deserved and the reason underlying the good economic fortune is the full flowering of the strategy to focus on technology as the driver of our economy after the exodus of the steel industry.

Western PA's economy is now built on the success of companies who have made breakthroughs in information, medical technology, life sciences, and communications. Some of these were startups that blew up during the tech bubble only to fall back to smaller success stories (see Fore Systems/Marconi), or rode the telecommunications bubble up and down (see Stargate), but the long-term success stories, like Medrad or McKesson, have had less spectacular, steady growth stories. Many of the region's most impressive businesses didn't exist when steel was king. Names like Respironics, Precision Therapeutics, VoCollect, or even UPMC, were not on the regional radar yet.

"We're thinking of technology as all we do now," says Pittsburgh Technology Council president Audrey Russo. "It's almost that apparent. Jobs in service sectors or manufacturing that aren't based on technology are all going to go away."

With the global economy trying to recover, progress will be measured in jobs as much as anything else. For the real estate and construction industry, the success of technology as an economic base means more space, and more construction. In fact, a look at the driving forces behind the boom in construction over the past few years reveals a parallel in construction to the leadership in technology Audrey Russo describes:

"The pillars of our economy have been life sciences, medical technology, IT resources, energy, server management, nanotechnology and the beginning of gaming technology, with Disney and Pixar coming in for the Entertainment Technology Center."

The roster of big projects during the past few years includes many of the names above. Children's Hospital, UPMC Monroeville, Medrad, Respironics, Consol Energy, Allegheny Energy, and Westinghouse Nuclear are a few examples of how emerging technologies have created construction opportunities for even established companies.

The Westinghouse project, while not the largest construction contract, could end up having the biggest impact on the industry of any of these jobs. Although the original plan for the Cranberry Woods campus was not small, totaling 845,000 square feet, the continued growth of the company has already resulted in leaseholds throughout the Cranberry/Marshall Township neighborhood of more than 200,000 square feet. And the company has had discussions of long-term needs of almost another million square feet.

Beyond the sheer impact in new office construction, Westinghouse's relocation to Cranberry had kept housing markets in the North Hills unusually healthy, and should spark new residential construction once the operations begin in earnest starting this summer. The move also spurred overnight interest in the office and industrial space in the immediate area. Space was already tight in Cranberry, and the clamped down credit markets have helped keep it that way for now, but the impending move has motivated several regional developers to move forward with plans for new construction in the area. While no specific plans have been revealed, Elmhurst Group, Crossgates and even Buncher Company have been looking for space to develop new office or industrial space to the south or north of Cranberry Woods.

“THE AVAILABLE INFORMATION
IS LIKE ONE BIG HOSE
COMING AT US WHEN
WE NEED A DRINK.”

To the south and east of the city, new energy technology has been the source of a mini construction boom for natural gas exploration. After a brief respite, interest in the Marcellus Shale formation has piqued again, and construction of new facilities for distribution and separation are expected in Washington County. The size of the gas deposits in the region has developed a related opportunity for new technology that can create even more natural gas jobs. Sequestration and storage of the gas in shallow underground geological formations is a coming problem that will need a solution that Western Pennsylvania business can develop.



In information technology, Audrey Russo sees a couple of pressing needs that demand solutions.

“I think the next big thing for [the Internet] will be aggregation and application of information,” she says. “The available information is like one big hose coming at us when we need a drink. Google is a great example of a business started to help with access to information. There also seems to be a huge movement in research and development, and commercialization of computerization for building automation and building systems controls. There is a lot in development right here with Eaton Corp.”

A big part of the back-story of the region's economic strength has been the proliferation of small to medium sized businesses that have been built around small but significant technology advances. These businesses are very difficult for the Department of Commerce to identify, let alone track, but they have been the backbone of the successes of outlying regional agencies like the Westmoreland County Industrial Development Corp. or Fay-Penn Economic Development Corp. in Fayette County.

On June 12, the Urban Redevelopment Authority approved the formation and funding of a source of support capital to make it easier for more small concerns to continue to grow the technology foundation. The URA-administered Pittsburgh Entrepreneur Fund will be a revolving loan fund for start up and growing businesses including emerging technology based firms, such as information technology, life sciences and green/energy and other start-up enterprises. It will provide low interest loans for working capital, equipment purchase, and real estate, as well as couple clients with a technical assistance consultant to provide guidance and expertise during the initial loan term.

"The high-tech and clean energy businesses that are driving our city's growth is part of the reason why President Obama chose Pittsburgh as the site for one of the world's most important economic conferences," Mayor Luke Ravenstahl said. "Last year, 36 high-tech start ups received grants through the Greater Oakland and Pittsburgh Central Keystone Innovation Zones. This new loan program will build off existing momentum, and allow for our city to continue to be the model for other communities who are struggling with economic hardship."

Loans will be made available up to \$200,000, not to exceed 60 percent of the total project cost. Private share of project may include venture capital, stock purchases, investor equity, intellectual property and/or private debt. Interest rates will vary dependant upon loan risk.

"An often critical financing need for emerging technology companies is at the nexus between commercialization and fast growth where the company needs to finance things like a new sales force, and new contract fulfillment," Rob Stephany, Executive Director, URA said. "The companies coming out of the technology incubators are often at this crossroads, and seeking financing to move from formation and commercialization to growth and profitability."

What's New for Construction?

Two years after building information modeling (BIM) started to become part of the consciousness of the industry, the revolution is still in its infancy stages. The concept behind BIM was that design software would allow architects to create three-dimensional information models as design and construction documents for their projects, with each bit of information added to the model being retained for later use and updating all related aspects of the model. All information added becomes part of the model, and ultimately the model and all its components become part of the contract.

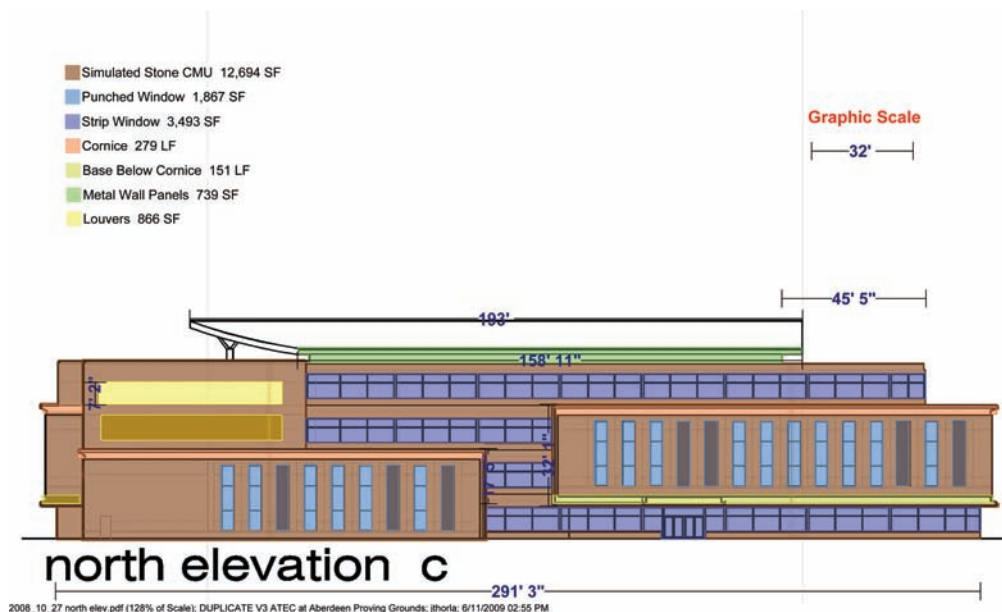
Local architect Burt Hill was one of the firms that grasped the opportunity BIM presented to both make its clients happier and make its own business more profitable. Its CEO, Peter Moriarity, committed the firm to doing all its projects in BIM by the end of the decade. In his words, BIM had the potential to be the biggest agent of change in two generations.

As the word of BIM began to circulate, showing up in magazines like this one, and as the subject of local association seminars, it became clear that BIM wasn't totally new to the region. WTW architect Scott Womack had been using BIM as far back as 2003. Carnegie Mellon's Gates Center for Computing was designed traditionally by Atlanta architect Mack Scogin Merrill Elam, but at the construction phase the project shifted to BIM with local architect EDGE Studio and contractor P. J. Dick Inc.

There is some similarity as to how BIM is slowly creeping into the marketplace and how green building took hold. For those who got green, there was no reason not to use energy efficient and sustainable design and construction principals on every job. The mainstream of the industry, however, viewed green as a fad at worst, and a luxury at best. It took almost a decade for the business case to become apparent, and for business culture to change and look to green as something that added value rather than cost.

BIM's acceptance will require a similar shift in culture, especially since full implementation requires mutual trust between parties who have been trained (and to a degree, educated) to mistrust other parties to a project. This issue of interoperability, the ability to share information across dissimilar software applications, has improved but there are still a number of important design and project management applications that will not interact with BIM.

What will shift the paradigm pretty quickly, of course, will be when owners require projects to be delivered in BIM without exception, or when architects begin to do an



2008_10_27 north elev.pdf (128% of Scale); DUPLICATE V3 ATEC at Aberdeen Proving Grounds; jthorla; 6/11/2009 02:55 PM

Estimating tools allow for better quantity takeoffs from conceptual design. This screen is from a design/build proposal using preconstruction/estimating software On-Screen Takeoff. Image courtesy of P. J. Dick Inc.

“OUR FIELD PEOPLE HAVE
SOME **NICE TOYS** AND
NOW OUR SERVERS AND LAPTOPS
AND HANDHELDS ALL WORK
TOGETHER. **THAT’S A
BEAUTIFUL THING!**”

in- depth study of their billable hours on BIM projects. Even in very efficient practices, the ability to update schedules, sections and details with the same piece of information (a change in door material or frame for example), without physically modifying any of those documents will produce better margins.

As the pace of innovation of new construction estimating or project management tools quickens, one comforting thing that has happened to technology during the past

couple of years is that peripheral technology has caught up with some of the things that were cutting edge two years ago.

Wireless devices were becoming prevalent and all the rage just a few years back. As cool as they were, wireless or handheld devices frequently operated only with others of their kind. Sometimes this was a network issue and other times it was interoperability of devices, but regardless of the reason, it wasn’t so cool to be the only person on a jobsite with a device that couldn’t communicate with the office of the client or even your own home office.

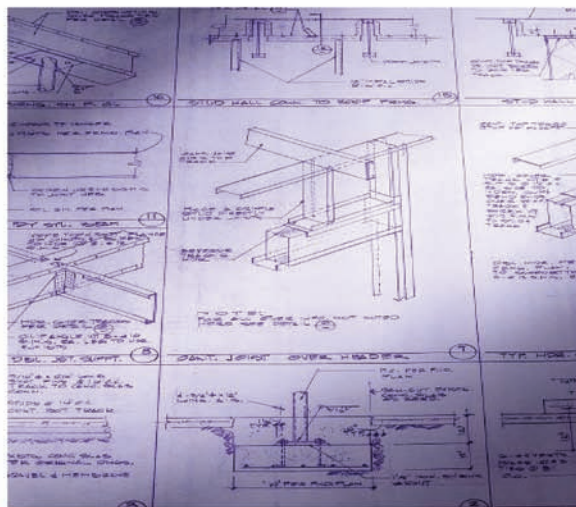
“I think the best thing to happen in the past few years is that all the toys seem to have caught up with each other,” laughs John R. Deklewa, vice president at John Deklewa & Sons. “Our field people have some nice toys and now our servers and laptops and handhelds all work together. That’s a beautiful thing!”

Communications has become so reliable and trackable that a new paradigm has emerged with regards to transmitting documents of all sorts. Digital documents, whether original or created from paper, are rapidly becoming the standard, so that email has become the current preferred means of communicating, making obsolete one of the greatest innovations of the past twenty years: the Fax machine.

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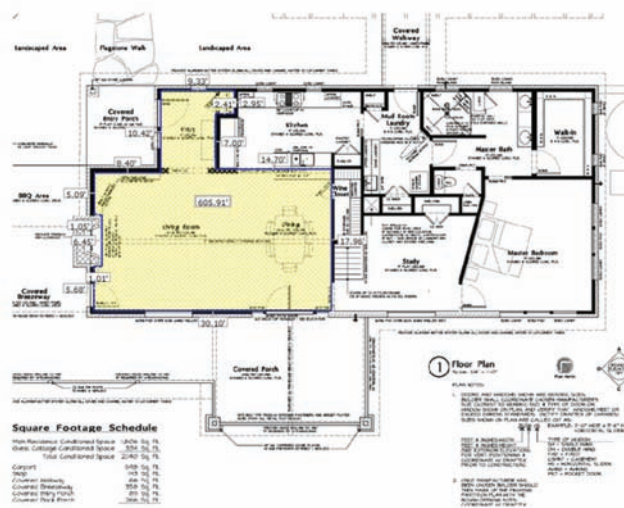
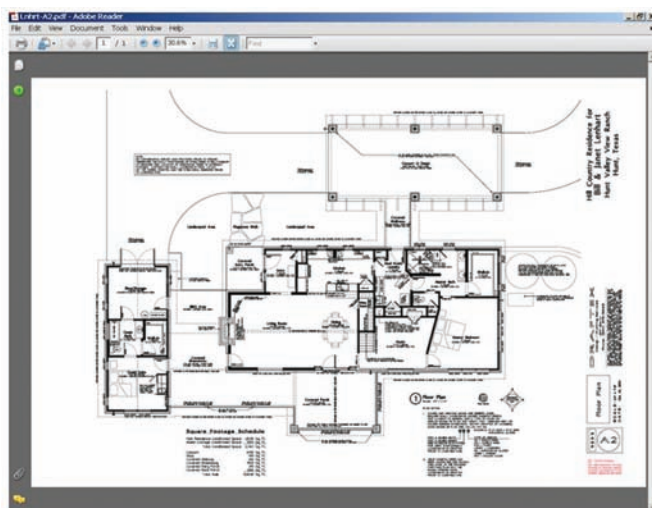


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"One thing I've noticed in the past year or so is that Fax machines are incrementally going away," observed Jeff Thorla, chief estimator for P. J. Dick Inc. "When I started working in the late 1970's no one had even heard of a Fax, and now we get most of our quotes and bids by email."

Thorla related that more and more of P. J. Dick's work was digital than hardcopy. "We don't even keep hardcopy any more. Everything is digital overlay," he says. "We bought a product called On-Screen Takeoff that lets us quantify the drawing on the monitor screen and keep run-

ning totals of the different materials in different areas." On-Screen Takeoff saves the digital estimate as it develops, leaving the color-coded marked up drawings for transmitting to the owner or architect with the quantities and markups intact. Thorla explained that P. J. Dick's team uses it for design/build work, making their own limited drawing modifications, with related estimates, to communicate back and forth with their design partners. "It's like a poor man's CAD."



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SEARCH

project websites

John R. Deklewa tells of a low-tech application that his estimators have found similarly useful. "For \$300 we picked up PDF-live, which takes documents that are pdf files and makes them live," he explained. The software allows a user to make virtually any digital document a .pdf file and make .pdf drawing files active. "The drawing lines are all alive as well. We can use our digital take-off tools and use PDF-live to email the estimate and drawings to whoever we need to."

Another technology that has been around for almost a decade that is still getting its footing is the project website. The majority of contractors and many architects and engineers have password-protected pages on their company websites for subcontractors or suppliers to get access to drawings, bidding documents or RFI responses. That familiarity with the medium has not translated into widespread acceptance of the shared project website yet.

Early in the decade some of the bigger construction management firms introduced project management websites so that they could control document distribu-

tion, communicate progress meeting minutes, or even hold meetings on line. Local engineer John Menitti developed a web-based procurement service at that time to act as a third party document control and bidding management service, but the failure of reverse auction services to take hold in construction killed interest in his website as well.

Recently, Mascaro Construction used a project website during the construction of the Medrad Disposables Manufacturing facility in Saxonburg. While the project went well, winning a number of national awards, and the website was considered a valuable tool for a successful project, the parties involved haven't developed websites for other projects since.

The problem seems to be that developing the websites is expensive, and the advancement of other productivity tools that can handle the function of a project website, lessens the benefits of the website.

The application isn't without value, however, and it seems likely that the growth of collaborative processes for delivering construction projects will lead to the use of the Internet for project websites as a regular tool for optimizing the communication of project information to all parties as quickly as possible.



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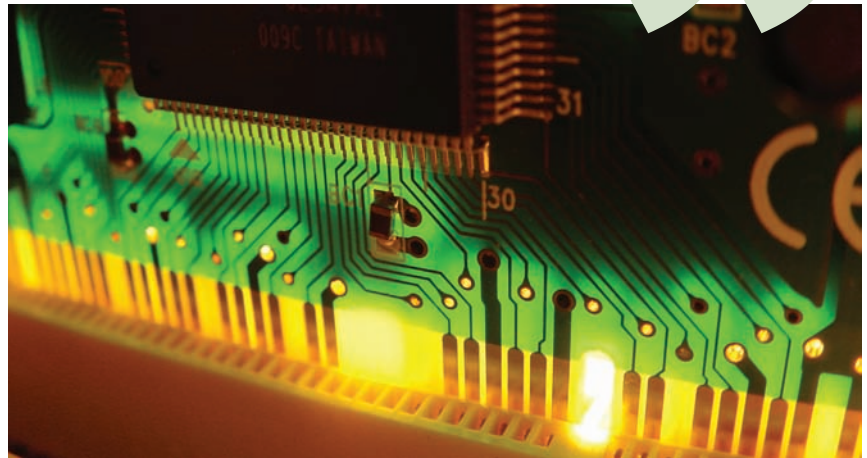
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As we reach the end of the first decade of the 21st century the use of new technology has become a salvation for a region whose economy had grown stale a generation ago. It's often overlooked that the region became an economic power in the first place because of the technological vision of a handful of industrialists. It wasn't that Carnegie or Frick made all their fortune on the backs of oppressed workers; they also applied technologies that allowed them to make more steel cheaper than their competitors.

New technology is, in the end, simply the application of better techniques to get more or better or faster from the existing business structure. In the past couple of decades that has meant computers more than anything else, but the next big thing could come from anywhere, even construction or real estate.

"I imagine that ten years from now we won't even use the word 'tech' when we talk about our economic progress. That is the differentiator between Pittsburgh and other regions," says Audrey Russo. "We have a sense that the world's smartest people are working hard to solve the world's hardest problems right here." **BG**

I IMAGINE THAT TEN YEARS
FROM NOW WE WON'T EVEN
USE THE WORD 'TECH'



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The MBA has registered their project with the U. S. Green Building Council and is renovating their new building with a goal of LEED Silver certification. The MBA's 10,000 square foot "green building" offers a variety of environmentally friendly amenities ranging from a sophisticated air ventilation system to motion sensors to reduce energy consumption and new exterior walls and windows for proper insulation. The project is on schedule to be completed this spring and it's located in the foothills of Foster Plaza, Green Tree, 631 Iron City Drive, Pittsburgh, PA 15205.

Key Green features of the Building:

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In green construction, the MBA membership accounts for 90% of the square footage of LEED certified buildings in the Greater Pittsburgh region.



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COLOR PRESS

Sometimes the most interesting technology comes wrapped in a not-so-high-tech wrapper. Such is the case with a \$10 million expansion the Butler Color Press completed in Summit Township, north of Butler, at the end of 2008. The project's new construction is a pretty straightforward industrial building, but the work inside the plant's main facility enabled the company to ramp up their production while reducing their environmental impact, and created 25 new jobs to boot.

The project was conceived in 2007 when Butler Color Press had the chance to evaluate a new press, the Goss C-700, which would allow them to add significant capacity to their operations while reducing their unit labor costs. The Goss press is the product of a French-owned company, but the new presses were being made in New Hampshire, and the engineering included technologies that made it a 'greener' press.

Butler Color Press is owned by the Wise family, which also publishes the Butler Eagle, the county's daily newspaper. As the project became more and more of a reality throughout that year, the Wise's turned to a family-owned contractor that they had been dealing with for almost thirty years, Uhl Construction from Hampton Township.

"I guess we've done seven or eight projects for the Wise family, and we'd done the last addition at Butler Color's existing facility," says Tim Hengelsberg, the principal at Uhl Construction who managed the project. "Butler Color is pretty typical of the kind of client we're used to working

with on a design/build project. They came to us with an idea of what they needed and an estimate from their engineer, and then we were able to work to a budget from there"

Butler Color's general manager Mike Lupi says the company expected that from Uhl Construction. "We chose them because we trust them to get things done the way we want it," he says. "They are always competitive with price, and end up doing more than we expect. We just have a great relationship with them."

While the project requirements seemed straightforward enough - add enough space to make room for a new press - the specifications for the press created circumstances that differed from the last projects at the facility. To begin with, the press itself was massive, spanning 90 feet and weighing 295,000 pounds, with the widest web printing surface in the United States. Its heat recovery and pollution control systems required mechanical construction with a custom solution also. Once the 5,000 square foot addition was built to accommodate paper storage and free up the plant floor space, some of the press's requirements began impacting the planning and construction.

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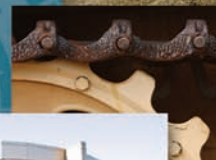
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The new Goss press after installation at Butler Color's existing plant.

Murray and Associates had been retained to determine the impact of the new press on the existing structural floor slab. Their calculations showed that the weight could cause some potential settling issues, but that the slab could bear the additional load. At the eleventh hour, however, when an engineer from Goss arrived to help with the installation, he discovered that they had not provided information about the effect of the high speed drive shaft. The high speed and length of the shaft added vibration and motion that would have compromised the floor in short order. Making the situation even more ticklish was the fact that the end of 2008 was fast approaching, which was a deadline for Butler Color Press to take advantage of a tax credit.

"We brought in Conway Engineering to design a foundation, cut the floor out and poured about a three foot reinforced concrete foundation for the press," remembers Hengelsberg. "We used high early concrete to make sure that the press would be operational by the end of the year, and the project actually completed December 15."

The duration of the project wasn't long but the entire process did span the beginning of the recession, and the financial panic of last fall. Butler Color's decision to invest was based on the growth of their

printing of glossy inserts and mailers for retailers like Giant Eagle and Macy's. The wider web was the productivity driver, allowing the company to print multiple books or higher page counts with the same resources, a result that's helpful when producing upwards of 35 million copies of material each month for Macy's alone.

That's not to say Butler Color Press was entirely comfortable with how the economy cooperated. "Of course we were a little nervous about the investment at the time but decided to go ahead with it," explains Lupi. "Buying the press was for more productivity. It's always about getting more pieces out of the equipment." Lupi noted that the increased productivity supported a strong part of their business, one that would allow them to ride out an economic slowdown better than competitors who had more debt.

Butler Color's resolve wasn't lost on Tim Hengelsberg. "For them to spend that kind of money during tough economic times is impressive."

Beyond the 25 new jobs needed to handle the work of the new press, Butler Color Press also added technology to do greener printing. The Goss press is a heat set operation, which involves a drying process, fired by natural gas that extracts the solvents, and a pollution control step which eliminates the volatile organic compounds (VOC) through incineration. In Butler Color's installation, once the gas has heated the system sufficiently the heat in the exhaust is recovered to keep the process self-sustaining. And the pollution control system eliminates 95% of the VOC content.

"It wasn't a green construction project but it provided a green result," says Hengelsberg.

For the Butler area the project was also a success. In addition to making Butler Color more competitive in place, the expansion created 25 jobs to handle the new press's work. Vernon Wise Jr., the founder of the Butler Color Press and publisher of the Butler Eagle, stated "this investment represents a commitment to Butler County and our employees that the Eagle Printing Company will continue to be a leader in the printing industry for years to come. **BC**

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Mark Dietrick (left) with Case Technologies president Touf Hassoun

Case Technologies

Seven years ago Case Technologies founder Touf Hassoun got a glimpse of the future, and it was a jolting experience. As an Autodesk dealer charged with growing the AutoCAD business, and succeeding for seven years, Hassoun was getting a demonstration of what would be his newest product, Building Information Modeling (BIM), when Autodesk acquired BIM developer Revit. What he actually saw was that his business was coming to a crossroads.

"I had been focused on AutoCAD, helping our customers use CAD to find solutions," he remembers. "But when I saw BIM I realized immediately that I was no longer in the software business."

Hassoun refers to the software side of his business as selling boxes. Like many apostles of modeling, he is convinced that the software, the 3-D, the capabilities are the means to an end; and he re-dedicated Case Technologies' mission to that of guiding their customers to making the business process changes needed to implement and successfully use BIM to grow their practices.

Touf Hassoun got into the architectural software business in a circuitous manner, although his education was a bit more direct in line with the profession. Hassoun was born in Lebanon, and his father was a government official there during some of the country's tumultuous years in the 1970's and 1980's. Hassoun lived for a time in Greece, and received an unusual primary education in French monasteries. When it was time to advance his education, Hassoun was accepted into a joint University of Pittsburgh/Carnegie Mellon program that gave him the

opportunity to get an undergraduate degree in engineering from Carnegie Mellon, and a computer science degree from Pitt.

Case Technologies was started in 1989 in Carnegie as a sales partner with Softdesk, a developer of computer aided design and drafting application software. The company was aggressive and offered software solutions to a broad spectrum of professionals. By 1996 Case Technologies had enjoyed enough success to be named Emerging Technologies Entrepreneur of the Year by the Pittsburgh Business Times.

Within a couple of years, as Softdesk was in the process of launching the commercial version of IntelliCAD in early 1998, Autodesk acquired them. Case Technologies became a partner with Autodesk going forward, which gave them access to the CAD software (including 3-D CAD), which was running on nearly 70% of the installed stations. Case capitalized on this market share leadership, growing the number of firms it served and the number of installed desktops steadily.

It was that demonstration of Revit's BIM product, in 2002, that gave Case Technologies the impetus to take their business to another level.

"I could see pretty quickly that the value we were going to bring to our customers was going to be in helping them use building information modeling to change their business approach," Hassoun explains. "That didn't mean selling boxes of software; it meant providing training on how to change their business. There is really no comparison to two-dimensional CAD because BIM is process-oriented."

“By 1996 Case Technologies had enjoyed enough success to be named Emerging Technologies Entrepreneur of the Year”

“Providing training is a big advantage we have over our competitors...Just because someone is successful using CAD doesn't mean they will be successful using BIM.”

Case technologies began to focus its energies on promoting BIM. The successes resulted in sales of software, but the best results were coming from expanding their training and consulting services. Case's mix of business began shifting from almost 100% software sales to a mix that is 75% software and 25% consulting services. Touf Hassoun envisions a future mix that is closer to 50/50.

“Providing training is a big advantage we have over our competitors,” he says. “Just because someone is successful using CAD doesn't mean they will be successful using BIM.” In fact, he says, some of the recent successes have come from engagements to train architects and engineers who bought BIM from another sales company, only to see the investment flounder because of lack of use. “We have gained opportunities with firms who have tried to teach themselves BIM and were running into roadblocks.”

By 2005, the focus on solving customer business problems was paying dividends. Case Technologies was consistently one of Autodesk's top dealers, but in the fall of that year the company achieved “Dealer of the Quarter” nationally for its third quarter sales (the same quarter the company lost its offices to Hurricane Ivan). At year's end Case was named Autodesk's Channel Partner of the Year.

Another of Case Technologies competitive advantages

is that it has leadership that understands IT as well as it knows CAD systems. Case understands and can help solve infrastructure issues like hardware adequacy, storage capacity and networking that are issues because BIM is generally ahead of the hardware's capability. What Hassoun felt Case missed was similar expertise in the design application problems that users faced.

Earlier this year Mark Dietrick, who was his company's bigger advocates at one of his bigger customers, Burt Hill joined the company as Director of Services. Dietrick is an architect with twenty-five years of experience in the profession, and was the chief information officer for 10 years and director of research for two years at Burt Hill. He was also one of the region's earliest BIM proponents. Dietrick was looking for an opportunity to influence a broader cross section of the industry towards making BIM and integrated project delivery (IPD) pervasive, and to help users optimize how their businesses used BIM. Hassoun was convinced that Dietrick's commitment to business change was a key piece to the puzzle that case was missing.

“BIM isn't like training someone on CAD,” he insists. “You don't teach a BIM customer how to draw a line, and a shape and then rotate it, and so on. I wanted someone with us who could talk customers through the process of reorienting their business.”

Mark Dietrick's role is as much training and consulting, as it is business development. “My efforts are to help customers to expand BIM to its full use, doing visualization, energy modeling, performance analysis,” he explained. “Using BIM for performance-based design is one of the most compelling aspects of the process with the significant sustainability challenges facing the industry. Using the model early in design to analyze siting, orientation or building shape as well as fenestration permits the design team to better capitalize on opportunities to enhance environmental performance.”


A recent new customer to Case Technologies provides a good example of what Touf Hassoun visualized when he first saw BIM.

Ron Dellaria, Chief Compliance Officer at Astorino, has been charged with implementing BIM into their organization. Despite his original unfamiliarity with BIM technology several years ago, Ron has become a major industry evangelist in a short period of time. He realized almost immediately that their BIM implementation was much more about changing process than about the technology. Having witnessed tight collaboration, teamwork and trust between integrated design and construction teams enabled by computer modeling on several projects in Italy dozens of years ago, Ron realizes that this is a much better project delivery model than the fragmented model traditionally used in the US.

Having started Astorino's BIM implementation and train-

ing using more standard methodologies, Ron turned to Case Technologies to assist with a more comprehensive BIM implementation strategy that is more supportive of the companies larger industry process objectives such as sustainable design and integrating design and construction.

That kind of thinking gets Touf Hassoun excited about the future of Case Technologies as well. The company is adding software for infrastructure asset management, VUEWorks, and for facility management, Archibus, to its offerings so that they can offer value to all parties in the life cycle of a real estate asset. The additional products create different kinds of prospects than in the past for Case Technologies, and expand the scope of the project model from concept through operations.

The 2009 economic climate has Hassoun shaking his head a bit, but he knows that the vision he had of his business in 2002 is becoming clearer. "People are not doing as much training right now because there is a cost associated with it, but that defies the logic of doing training when business is slow," he says. "That will change as companies get more work, and we like the idea of being there to help them solve business problems." 

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Legal Perspective

Labor Law Reforms are Coming

By: William Bevan III



No person in the business community should take lightly the current efforts in Congress to reform the National Labor Relations Act. A bill pending in both the House and Senate is the Employee Free Choice Act ("EFCA") (H.R. 1409; S560). It is the same version of this legislation that passed the House in 2007 but fell short in the Senate and would have died, in any event, from a threatened Presidential veto. All that has changed. There is a new political landscape in Washington. Organized labor's supporters in Congress, members of the Democratic Party, control both houses of Congress and the White House. The President has stated his strong support for EFCA, both during the campaign and after his inauguration. With the defection of Pennsylvania Senator Arlen Specter to the Democratic Party, and the seating of Al Franken as the remaining senator from Minnesota, the Democrats could have a veto-proof Congress.

If passed in its current form, EFCA would enact the most sweeping changes in labor law since the passage of the National Labor Relations Act ("NLRA") in 1935. It would amend the NLRA, the nation's basic labor law, by: (1) permitting unions to obtain certification and bargaining rights through a mandated card check procedure, thus eliminating, as a practical matter, secret ballot elections under the Act; (2) imposing mandatory mediation and interest arbitration in first contract situations, after 90 days of negotiations and 30 additional days of mediation, instead of letting free collective bargaining take its course; and (3) enacting a scheme of punitive remedies that provide for triple back pay in discharge and discrimination cases and civil penalties of up to \$20,000 for each violation that occurs during a union's organizational campaign defined as the period from the commencement of the organizing campaign until a first contract is reached between the employer and the union. EFCA's provisions are a major change in federal labor laws because: (1) most bargaining relationships (approximately 90 percent) are now formed by the NLRB's certification of secret ballot elections; (2) the NLRB supervises the process of collective bargaining but does not seek to impose the terms of the parties' collective bargaining agreements; (3) the NLRA's remedies are currently "remedial" and designed to make a party whole as the result of another party's un-

fair labor practices; and (4) the procedures regarding first contracts will apply to all first contracts, regardless of the basis of the union's recognition.

Does having a veto-proof Congress insure that EFCA will pass in its present form? Odds are that it will not. At least four Democratic senators have publicly stated their unhappiness with EFCA's card check and mandatory interest arbitration features as currently drafted. This has led to the introduction of alternative bills and discussions both inside and outside of Congress, in the hope that some bipartisan group can come up with a compromise piece of legislation that Republicans could support.

Thus far, all of the proposed alternatives have involved the elimination of the mandatory card check provision of EFCA which seems to be the one that has served as the biggest lightning rod to rally support against EFCA. With regard to mandatory interest arbitration, some alternatives to EFCA would retain it in the legislation and others would not. Since the current draft of EFCA is devoid of how such procedures are to be implemented, there has been a suggestion that EFCA be revised to make any mandatory interest arbitration so-called "baseball" style or final offer mediation. This particular addition might make this provision of EFCA somewhat more palatable to the business community. It would certainly encourage harder and more candid bargaining by the parties.

 If passed in its current form, EFCA would enact **THE MOST SWEEPING CHANGES** in labor law since the passage of the National Labor Relations Act ("NLRA") in 1935. 

Most of the alternatives to EFCA would include strengthened penalties and enforcement. Two proposals also offer something that labor has long sought but has not been able to obtain from either the Board or the courts: the right of equal access to employees. In one proposed piece of legislation, if the employer is allowed to make captive audience presentations, the union would be given equal time to address employees at the employer's facility. The same would be true of written distributions of campaign literature by the employer. A group representing a coalition of employers who embrace equal access in principle, but not card check or mandatory interest bargaining, would permit equal access but require that all campaign presentations take place outside the workplace during nonworking hours at a neutral site.

It is hard to predict exactly where the debate on labor law reform will ultimately come out, but it is reasonable to believe that Congress will pass some form of reform sometime this year or next. This commentator believes that mandatory card check will not be part of the final bill, but some form of expedited NLRB hearing and election procedure will be part of the legislative framework. This idea is not new and was part of reform efforts in the 1970's. At this juncture, it is hard to predict whether mandatory interest will be part of the equation as well, but it clearly has a better chance than card check. One can only hope that those with extensive experience in collective bargaining can convince a majority in Congress that this proposal will do more harm than good. With regard to remedies and enforcement, this commentator believes there will be some form of enhanced remedies and/or penalties in any new legislation.

Finally, the business community should not lose sight of the fact that President Obama plans to restore the Board to full strength. He has already announced the appointments of two union-side labor lawyers whose nominations will shortly be sent to Congress. There is little doubt, at this point, that they will be confirmed. There also is little doubt that the Board's decisions on substantive issues of labor law will shift back from the direction they have taken under the Bush Board. Indeed, some commentators have called on the Board to reform itself and its approach to labor law. As a former colleague on AGC's Labor and Employment Law Council was fond of saying, "We live in interesting times." **BG**

Bill Bevan, a partner at Reed Smith LLP, has been practicing labor law for 38 years and has been active in representing the construction industry in labor law and labor relations issues. He recently served as Chairman of the AGC's Labor and Employment Law Council and has presented a number of symposium papers at the Council's annual national construction labor law symposium.

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Financial Perspective

Looking for Green Shoots in the CMBS Market

The commercial debt market has been one of the collateral victims of the financial system breakdown that began in the third quarter of 2008. Unlike the residential mortgage-backed security market, commercial mortgage-backed securities (CMBS) were not dampened by a massive devaluation of the underlying assets as much as the very simplest of supply and demand dynamics: no one wanted to buy them.

While the sub-prime mortgage crisis and global financial meltdown have been reported ad nauseum, the roots of the freeze in secondary credit markets or non-mortgage debt has been given less coverage. Ironically, the problem infecting these markets has not been complicated to explain. As uncertainty in one credit category spread to fear of all markets, the bid for commercial debt (and municipal bonds or college loans for that matter) dried up. If you wanted to sell commercial debt by securitizing the loans, the discounts you had to offer made them unprofitable to sell. Even after the global credit conditions eased somewhat after the first of the year, securitization did not move much towards normalcy.

"The chasm between bid and ask is still pretty wide," observes Dan Puntl of Grandbridge Real Estate Capital. "For lenders it should be a great time. Banks can get 400 or 500 basis point spreads, plus 30 or 40 percent equity, but there's no liquidity in the market."

As 2009 unfolds, each month brings a bit more comfort that the commercial mortgage market will not be the 'other shoe' to drop on the financial markets, as has been so direly predicted by the gloomier financial media. That's not to say there isn't the possibility of another sudden loss of confidence that could lead to panic, but there are several facts that support the argument that a distressed commercial debt market won't degenerate further.

First and foremost among these is the difference in leverage between the residential and commercial properties. Compounding the lost value in residential property is the fact that homeowners were allowed to borrow greater than 100 percent of the home's appraised value. In the loosest of commercial markets, developers may have

been able to coax 90 percent loan-to-value out of aggressive lenders, leaving some equity cushion for declining value or lost tenants.

Commercial underwriting standards were also more stringent than residential mortgages. Aggressive mortgage lenders encouraged or allowed the infamous 'low doc' or 'no doc' applications, which gave borrowers the opportunity to overstate income or home value. Commercial standards were more relaxed a few years ago, but documentation was never optional.

Another reality of the commercial real estate market is that the properties, generally speaking, are owned by firms that own other properties. Developers, like other investors, diversify their portfolios so that a decline in one sector (like we're experiencing in retail), can be supported by better performing sectors. Also, the makeup of most commercial buildings is multi-tenant, so that rent is still being paid on a portion, or majority, of the building, even if vacancies rise.

What all this adds up to is that declining business conditions make for decreased profits and cash flow in commercial properties, but not necessarily apocalyptic loan defaults.

With the fall's panic fading, and the cold hard facts dispelling concerns about rampant default, the conditions should be ripe for a return to CMBS and commercial paper liquidity. But the "all clear" hasn't sounded just yet.

"Unfortunately, there haven't been any green shoots, or anything like a recovery going on in the CMBS market as we see it," says Matt Whitworth, partner at Meyer Unkovic & Scott. "We represent a few lenders who used to do CMBS deals but all are retrenching right now. My understanding is that no CMBS deals are being considered right now." Whitworth points out that the CMBS defaults haven't been anything like those in residential, but expects no return of the market until at least 2010.

When the market returns it is likely to be tilted towards the distressed properties at first, a reality that will keep securitized commercial debt priced cheap. Currently, many savvy capital firms are amassing billions in cash as dry powder, to be used to buy discounted properties or debt when investors feel the bottom is in.

"I think the CMBS market can only return when the lenders can unload the unsecuritized loans that they are holding," says Puntil. "Those loans aren't doing the lenders any good sitting there. I've begun to hear stories of lenders calling borrowers and offering to sell the loans back at 70 cents or 50 cents on the dollar, just to get their money back."

Just because there is too much loan supply for demand right now doesn't mean that the demand for commercial debt isn't building, or won't return to similar levels as before the end of 2007. But it's likely to mean that the new market will have lower expectations built in.

Lenders need securitization, or some means of selling their loans, to offload some of the long-term risk inherent in commercial real estate finance. They also benefit from the sale of the loans by regaining the leverage to loan again on the same asset once they have converted the loans into cash. Assuming that the lender collects fees and a spread on the loans they originate, being able to originate a second loan on the same asset in the future increases the profit margin of the asset. The more often a lender can turn assets, the higher the margin on the asset.

Investors benefit from purchasing loans by gaining the benefit of the interest paid out over a longer term. The appeal of commercial debt is that the perceived risk of default on a commercial property is relatively low compared to the return in normal markets. Packaging the loans into securities, which were given de facto guarantees by the rating agencies who analyzed them and stamped the AAA rating upon them, gave the perception of even lower risk than normal. Of course, the markets have not been normal since mid-2008 and no rating turned out to be as guaranteed as it seemed.

If demand to sell and buy loans remains, and the lack of liquidity is creating a pent-up demand imbalance, what is keeping the market for commercial paper from returning? Oxford Development COO Steven Guy thinks it's a matter of accepting new conditions, which is what is taking time.

"I think the hardest thing will be adjusting to the new rules about loan-to-value," he explains. "I don't know that even great cash stream will change the fact that equity contribution will be higher. The developers will have to adjust to new standards, especially with bank financed debt. The servicer just has very little latitude to maneuver."

Guy believes that more equity will simply be a fact of life for a while. Without much upward rate potential, the investor will have to adjust his return expectations. And Guy believes investors will, eventually.



"I have confidence that the lenders will develop new financial products that include ways to package debt for sale," he says. "When some form of repackaging comes back in 12 months or whenever, you won't see much change in leverage, but you will see an adjustment in return."

For developers and buyers of debt he sees a related adjustment as well. "It depends on how managers view portfolios, but if they want high value properties as part of their portfolios, and they want to maintain the velocity of their development business, they will have to accept internal rates of returns in the high teens instead of the low twenties." **BG**

Management Perspective

Integrated Project Delivery

Construction is one of those industries where there seems to be a million different ways to skin the cat. As the influence of information and professional marketing has grown in the business, the proliferation of buzzwords has given the impression that there is always an innovative new way to skin the cat. As often as not, the buzzword is the sizzle instead of the steak.

During the last decade, for example, a newcomer to the business would have been forgiven for thinking that design/build was the next big thing. Anyone familiar with the work of the Navy Seabees can tell you that doing design and construction at the same time (and on quite an accelerated schedule) was how things got done in wartime more than 60 years ago. Even the pyramids were done design/build.

Some of the recent breakthrough innovations, however, seem to have a little more substance to them.

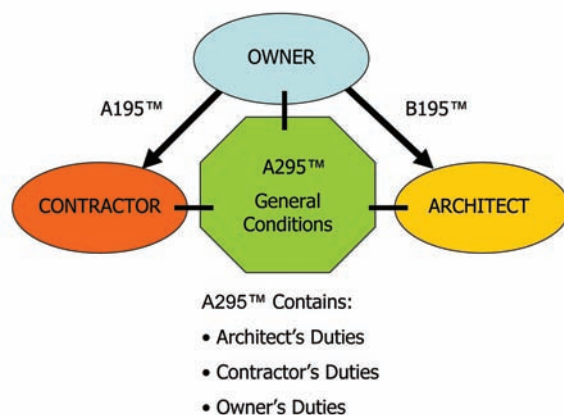
Green building has proven its business case. Building Information Modeling (BIM) is one technology that clearly has staying power, and will likely change the industry forever. And integrated project delivery (IPD), which seems to have grown out of BIM, is showing promise as a solution to the dilemma of sharing information, responsibility and risk fairly.

The problem is that the marketing types have co-opted the phrase, and it is harder to tell whether what's being proposed is a formalized means of apportioning risk and reward between owner, architect and contractor (an upper case Integrated Project Delivery job) or a non-contractual way for various parties in a project to share information and work together towards the common goal of project completion, customer delight, and world peace (a lower case integrated project delivery).

It's really not fair to be so cynical about lower case ipd, especially if it encourages firms that would not normally work collaboratively to do so. In fact, architectural and contracting advocates of IPD often suggest the informal version to help non-collaborators break down their own barriers to sharing information and establishing trust.

Before taking the comparisons any further, the working difference between the lower case ipd and an upper case IPD job is in the contracts. Informal integrated project delivery can be done on any project, regardless of the contracting, as long as there is a means for sharing information and a spirit of collaboration in dealing with disputes. To truly cross the line into a formalized IPD requires a contract that recognizes the separate responsibilities of all parties, apportions the risk and reward of each, and provides for management and resolution that holds all parties harmless.

Transitional: "Design-Assist"



Contractual alignment for an integrated project delivery using separate contracts aligned by general conditions. Source: William Quatman.

While IPD's are not part and parcel to building information modeling, there are similarities in their guiding principals, and the rising use of BIM should logically increase the number of formalized IPD's that are used to deliver BIM projects.

The underlying principal of Integrated Project Delivery is that sharing information and responsibility for a construction project provides cost savings from efficiency, significant schedule compression from non-redundancy, and lower (or no) cost overruns from claims and disputes. In a 'kumbaya' sort of way, these concepts can be applied to any project that affords an opportunity for a contractor to be involved while the architect designs the building. With separate contracts between the owner and contractor, and the owner and architect, however, it's practically impossible to not have turf to defend, even in the most collaborative of environments. And most projects don't exist in the most collaborative of environments.

Implementing an IPD requires that each of the parties to the project participate according to their capabilities, contributing value to the project from conceptual thinking through the approval of shop drawings. Without drawing an eighteen-month design and construction critical path, you can explain the flow of information in an IPD as having the owner's needs for the project interpreted alternately by the designer and contractor (and their teams), with each handling the areas within their expertise.

For example, the owner's description of his business case and space needs is best interpreted by an architect's programming, but even at that early stage, the contractor's market awareness or experience with means and methods may shift the interpretation of the program to a lower building height or alternate structure because of material prices or availability. Such early exchanges can manage the project's budget or schedule long before design development, without impacting the basic design concept of the architect.

Likewise, an architect's or engineer's experience with building systems can result in a keener understanding of life-cycle costs, for example, that would be persuasive in an early budget-cutting discussion. Saving an owner significant operating expenses is an architectural skill that could be lost in a 'value engineering' exercise after the bids are in.

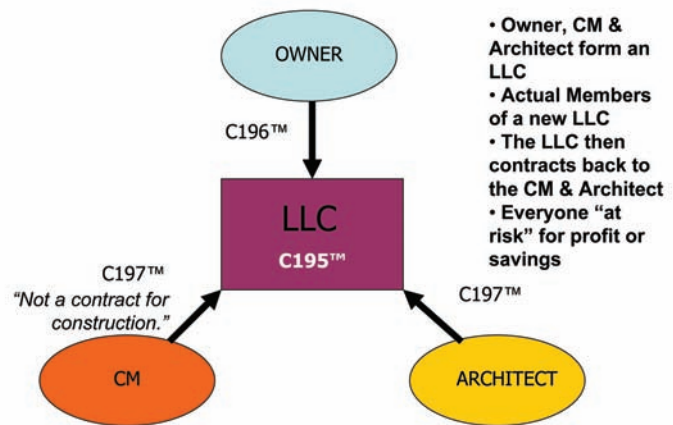
Cynical readers can be forgiven for wondering what contractor is going to get away with changing the building during design, or what architect could win a life-cycle cost argument during a VE session. But the cynic would be overlooking the foundation of the Integrated Project Delivery approach: trust.

Tri-Party Agreements

Even in an environment of trust it's not a bad idea to put things down on paper. For an IPD a non-traditional form of agreement is needed to allow for documentation of the participants' scope of work and how each role was to be compensated, how the project would be managed, and how disputes would be settled. Most important, the contract has to create a model for collaborating while indemnifying the other parties from damages.

As the trend toward collaboration developed in the middle of the decade, a void was created in contract documentation that would describe and protect all parties to an IPD. With an update not due from AIA 201 documents until 2007, the Associated General Contractors of America (AGC) put together a consortium of industry representatives to create ConsensusDOCS, a standard contract that was endorsed by 22 disparate associations.

"Single Purpose Entity"



Contractual alignment for an integrated project delivery using Single Project Entity agreement. Source: William Quatman.

Within ConsensusDOCS is agreement 300, which is a tri-party agreement, designed to address the growth of BIM and other integrated project delivery systems. The tri-party agreement maintains the fundamental roles and responsibilities of the individual firms while providing a framework for architects, owners, contractors and subs to share information, risk and reward.

"The reason why [ConsensusDOCS 300] works is that it aligns everyone's interests in the project while letting the professionals retain their roles," explains Brian Perlberg, senior counsel for AGC in Washington, DC. "The contractor is still responsible for means, methods and techniques; the architect is still responsible for design."

Article 3 of ConsensusDOCS 300 sets forth a four-page list of collaborative principles that define the intent of the parties to collaborate. The principles express that trust in the parties is accepted, that sub-consultants and trade subs should be brought into the process during design. The parties' responsibilities are detailed and the allocation of risk is spelled out with limits of liability. The contract calls for a management group with equal representation from the parties to make decisions; and, specifies that the management group decisions will be safe harbor decisions, and waives consequential damages mutually.

The AIA's version of the tri-party agreement is the Single Purpose Entity (SPE) model. In an SPE the various parties create a limited liability corporation unique to that project. The same principals are applied as the ConsensusDOC 300, but the SPE may have problems with the enforceability of its provisions because the legal entity is


the LLC, not the individual professionals. This creates obstacles in areas of licensure, indemnification and insurance that some professionals consider insurmountable.

Bill Quatman, a vice president of Burns & McDonnell Engineering in Kansas City and an attorney, was involved in trying to modify the SPE contracts that were part of the AIA 2007 update. At the 2009 AIA national convention in San Francisco, Quatman presented several of his concerns during an educational session.

His main points were that an LLC set up as the AIA documents provided would be in violation of many state licensing requirements for architecture and contracting since those states require a licensed professional assume liability for performance. Quatman also asserted that the single purpose entity made self-indemnification unenforceable, and as a practical matter, uninsurable as intended. And, at the conclusion of the job, the LLC would have no assets from which to deal with any of the issues, since its sole purpose is to plan, design, construct and commission the project. Unless the owner over-funds the project, the SPE will have no cash at the end (the completed project is not owned by the SPE).

The AIA documents are a radical approach to the question of establishing a standard contract for Integrated Project Delivery. Its solution puts the parties outside their areas of expertise and comfort. The push back that the SPE is getting from architects could be because the contract puts the designer beyond his cultural norms, which don't include pricing risk into providing traditional architectural services.

Local attorney James Bauerle, of Keevican Weiss Bauerle & Hirsch, has drawn up IPD agreements and feels conceptual contract planning is the key to making good ones.

"The essence is to be as clear as possible about the contributions of each party, the deliverables, what's due and when," Bauerle explains. "That sounds obvious but it's *sine qua non* for these agreements. Then you have to have some mechanism for adjusting as the project proceeds and the conditions change." 



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MBE/WBE Company Spotlight

Professional Mechanical Sales and Services Inc.

Stanley Loper considers his limited experience in the construction industry to be one of his biggest assets as owner of Professional Mechanical Sales and Services. After 25 years with chemical manufacturer Bayer, Loper took the opportunity to purchase a majority interest in Pro Mech in 2002. He didn't believe it would hinder him to have grown up outside the mechanical trades.

"I thought it was just as important to have good business sense," he says. "It has been just as important to be a good listener and to manage people well."

Pro Mech has grown from \$2 million to \$8 million over the past seven years, and is involved with some of the biggest projects - the Rivers Casino and the Consol Arena - and some of the more recognizable businesses - UPMC, Eat 'n Park, Rite Aid, Allegheny Ludlum - in the region. Their business is split fairly equally between new construction and service, subcontracting and prime contracting. Pro Mech focuses on hydronic systems, refrigeration, and specialty HVAC (like Liebert systems) as well as mainstream heating and air-conditioning. The breadth of the business is a result of Loper's experience with Bayer.

"The diversity of Bayer's lines taught me not to have too many apples in one basket," he says. "You have to do something that can add value to your customer to make them choose you instead of a competitor. One of those is working as a sub to the large subcontractors. It helps us spread the work." Pro Mech is working as a sub to Ruthrauff Sauer on the casino, and as a joint venture partner with McKamish on the arena.


Loper knew that Pro Mech's MBE status would help them get opportunities but found that to be a double-edged sword. "The toughest thing was selling our capabilities, getting them to look at us as a capable HVAC contractor, not a capable MBE," he says. He believed that proving Pro Mech was capable meant building a crew of mechanics in the field that would perform.

"I want to say that Ken Broadbent was very helpful in getting people that would help us grow," Loper says. "Local #449 made a big difference for us."



Professional Mechanical Sales president Stanley J. Loper

The company has swollen its workforce somewhat to match the needs of the large projects, with 36 in the field and 14 employees in the office. The office staff has expanded in recent years to help continue the growth. Pro Mech has a sales manager and added an estimator with institutional experience this year to respond to proposal requests from Pitt and Carnegie Mellon that they hadn't in past years. The company has begun to work with energy conservation contractors on state funded projects, working with Honeywell at Northview Heights and TAC doing PennDOT projects.

Stan Loper believes working on the casino and arena projects will help Pro Mech break through barriers to the next level of growth. "We've still had to fight the perception that we can't do the big jobs," he noted. "Those projects help prove that we're technically sound. We don't expect to just get work. What we want are opportunities; we can take it from there." 

COMPANY FACTS

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Trend to Watch



What's Keeping Tilt-Up from Catching on Here?

By Jon O'Brien

According to the Tilt-Up Concrete Association, the use of tilt-up is growing rapidly and its share of the construction market is expanding, as its advantages are becoming known. If that is true, you would have a hard time proving that in the Greater Pittsburgh region. In a region so renowned for its steel history, promoting the use of concrete as the major material for a building's shell can be a tough sell.

"I really like tilt-up, but I've noticed it's not really appreciated here," said Drew Johnston, P.E., Program Director Global Facilities, MEDRAD. "I remember when I moved here I mentioned tilt-up at a pre-job meeting, then after receiving some unfriendly stares, I got off of that idea."

CB Richard Ellis Vice President Chad Brinkley gained experience working for Lucardi Construction in California during the late 1990's. He was hired after graduating from Penn State's architectural engineering program. He decided to research the construction technique that his new employer commonly employed.

"I went to the architectural school library after I was hired to look up tilt-up," Brinkley laughed. "There was only one book from the 1950's on the subject. I remember it had an appendix about how tilt-up would withstand a nuclear blast."

Tilt-up construction received its name as a way to describe its technique: formed concrete walls are cast horizontally and then are lifted and set to form the building shell. While the name tilt-up was coined during the 1940's, this building method dates back thousands of years ago to the Roman Empire, and, for a visual of the process, think of an Amish barn raising. For many the genesis of tilt-up was after World War II when concrete was reinforced with rebar and the mobile crane entered the scene.

Tilt-up is a construction technique used for commercial construction structures such as schools, office buildings, churches, retail centers, and manufacturing centers. Tilt-up projects range in size from four thousand square feet to over a million square feet. These are single and multi-story buildings, going as high as four stories. Tilt-up concrete wall panels average 6 to 8 inches thick and can range in weight up to 339,000 pounds, which is the heaviest known panel lifted. Locally, the heaviest panel discovered for this story was close to 100,000 pounds.

"Tilt-up is not the perfect option for every building, but for a low-rise building with enough space to cast the panels, it's a great option. In commercial construction, tilt-up combines the best of both worlds – traditional and pre-engineered buildings. It's not as expensive as traditional, stick-frame on slab construction, and the end product is more durable than the tin-can pre-engineered buildings," said Joseph Burchick, President, Burchick Construction Co., and the only contractor member of the Tilt-Up Concrete Association in Western Pennsylvania. "Lifting day is a beautiful thing to see on a tilt-up job. In a few days, a brand new building shell can be erected."

PLANNING FOR TILT-UP

The tilt-up route for a building must be decided at an early stage when designs are being developed. It is important to get the structural engineer in the loop early to provide input on the design of the foundation, wall engineering and other load-bearing analysis to understand what areas of the design need attention. The structural engineer's evaluation of the soil can assist the team in understanding floor and foundation details, and depending on the soil report, measures can be taken that could impact the schedule.

Pre-construction and design will also go smoother if the contractor is brought into the process early. Because of the amount of jobsite planning involved in tilt-up, it's a natural for design/build delivery. Whether a design/build or traditional delivery system is used, having both the structural engineer and the builder on board can make a tilt-up project go smoother, and constructability issues are addressed as the design is developed.

Perhaps more than most construction projects, pre-construction planning is crucial to the success of a tilt-up project. Tilt-up projects require an organized, front-end planning approach. Something as unrelated as jobsite trailer location could result in lost time if workers have to stop to take down the trailer and relocate it on the site (to be out of the way where the wall panels are created). Coordination and management are required to fully take advantage of the benefits of tilt-up. The tilt-up panels can be formed quickly then lifted into position around the building's slab. This means the tilt-up structure's exterior wall is virtually finished when it is tilted into place. It sounds easy, and it can appear easy if an experienced, well-organized team approach is taken.

It may seem a bit simple, but planning is also important because the horizontal pour is done into a form that is a reflected version of the exterior elevation. Recesses become relief features once erected, and any imperfection in the forming appears, big as life, on the building's exterior.

THE PROCESS

For a typical tilt-up building, the concrete slab is poured first to create the floor. The floor slab is unexposed during the



Architectural elements and traditional finishes like brick can be embedded in the panels during the horizontal pour (mockup photo courtesy of Burchick Construction).

construction phase so it has to be high quality finish. The floor slab, in most instances, will be where the tilt-up wall panels will be created. After the floor has cured, the next step is to create the wall panels. For the walls, the first step is to draw lines on the concrete floor slab where the concrete panels will be formed and poured. These lines will include door and window openings. After the lines have been drawn, workers build the tilt-up panel forms out of wood connected to the braces. The tilt-up concrete panels must be sized and positioned in precisely the right dimensions and location. Rebar is then placed in the completed concrete panel forms to ensure the strength of the tilt-up walls, making the panels safer to lift into a standing position and more durable once in place. Also, prior to the concrete pour, embeds and inserts are added to the panels for aesthetics. Early tilt-up projects were 'boxy' and unappealing; tilt-up today includes many finish options, from paints and stains to pigmented concrete, cast-in features like brick and stone to erosion finishes like sandblasting and acid-etching.

"Architecturally, there is potential for a good finished look, adding unique openings and embedding items to create an attractive building," said Gary Carlough, President, EDGE Studio. Tilt-up panel shapes have also evolved over time to become aesthetically pleasing with circular or elliptical openings. With the wood forms securely constructed and the rebar and embeds in place, the tilt-up concrete panels are ready to be poured with concrete.

The wall panels are created very similar to the way floor slabs are poured. The process for building the forms and pouring the concrete tilt-up panels goes quickly. An experienced crew can take a large project from bare slab to completed tilt-up panels in a matter of two weeks. Once the concrete has cured, workers remove the wood forms and brackets to leave the tilt-up panels lined up on the floor slab.

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THE LIFT

"In the late 1990's, I was visiting a jobsite in Boca Raton, Florida, and just across the street from my hotel was another jobsite where I saw something going on that I wanted to learn about. What I saw was tilt-up, lifting wall panels into place," said Andy Gildersleeve, Director of Development & Construction, The Elmhurst Group. "That day left an impression on me and I returned home set on learning more about tilt-up so I could use it on my projects."

Lifting day is a memorable experience. The tilt-up panels can be massive, typically weighing between 40,000 to 60,000 pounds in this region. The mobile crane lifts the tilt-up panel and tilts it into position over the footing. Workers help to guide the tilt-up panel and keep the braces from getting tangled in the lines. After the concrete panel is set in place, the crew attaches the braces to the slab to keep the panel standing until it is attached to the other tilt-up panels and the roofing system. The connections to the floor and roofing systems are usually steel plates with headed studs that were secured into the panels prior to the concrete pours. The roofing attachment points are made to the roof trusses. An experienced crew can tilt-up as many as 30 concrete panels a day. After the building shell is erected, the specialty trades begin their interiors work inside to complete the project.

WHY NOT HERE?

"I guess the tilt-up process has never taken off locally because there are not enough local contractors comfortable enough and capable enough to pour and cast concrete with their own workforce to make it a lucrative business practice. We did a project that was a single-story building; and it went smoothly, completed on a fast schedule. But had it been a multiple story building we would have realized a much greater savings to the project," observed Gary Carlough.

"People just don't know about tilt-up and the benefits. The education in the architectural community is geared towards building with steel, not concrete," says Andy Gildersleeve. "Plus many myths exist, like tilt-up is only for warm weather regions. Well that myth was bunked on my first project when Michael Baker Airside 100 was constructed with the bulk of the work completed in the dead of winter of 2002. Some of the biggest tilt-up contractors in the Western Hemisphere are located in Canada."

Gildersleeve's employer, Elmhurst, has been one of the few developers to regularly use tilt-up construction, with several tilt-up buildings in both its Airside and McLaren Woods parks.

CBRE's Brinkley is among those who would like to see more developers take a chance on tilt-up. "Contractors should like it because they can control the schedule and really drive the project," he said. "But owners ought to be the ones pushing it. The residual value of a tilt-up building blows the doors off a metal building." **BC**

Jon O'Brien is Director of Communications for the Master Builders' Association of Western PA. He can be reached at 412-922-3912 or jobrien@mbawpa.org.

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THE LIEN SCENE

NAIOP & MBA Host a Panel Discussion on the PA Mechanic's Lien Law

Date & Time: Thursday, August 27, 2009 - 7:30 to 9:30 a.m.
Location: MBA Offices - 631 Iron City Drive, Green Tree
Cost: Free for NAIOP & MBA Members; \$50 for nonmembers
To register: Contact the MBA at 412-922-3912 or lroberto@mbawpa.org

Join NAIOP Pittsburgh and the Master Builders' Association for a discussion on the Pennsylvania Mechanic's Lien Law. This seminar will focus on the past, present and, most importantly, the future of this law. Distinguished panelists include:

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Best Practice



Lean Comes to Construction

By Suzanne Elliott

When the economy pulls itself out of the current recession, it's quite possible a new trend will emerge in commercial construction – lean construction, an industry buzzword that first appeared in the late 1980s. Like green construction, lean construction's roots are in the manufacturing industry and involves rethinking a project from the client's perspective and his needs.

To understand why lean construction may become an important trend in commercial building, you have to step back to move forward. The roots of the lean concept were

developed by the Japanese to identify and eliminate waste in manufacturing, particularly in the automobile industry. The concept of lean says any expenditure – other than what is needed for the project – is considered waste and needs to be eliminated.

So now you're wondering how the lean concept can be used in construction? The first step is an attitude adjustment by the construction industry. Contractors need to define the project from the client's viewpoint. This refocusing is different from responding to what the client wants in bricks and mortar and what they say they want on a blueprint. In other words, the contractor has to assume the role of advisor and a blunt one at that.

One of the reasons – according to lean construction rationale – that profits are down in commercial building is because too often the contractor tends to focus on the bricks and mortar instead of understanding what the client really wants. Contractors need to build relationships with their clients to help them find the best possible solution, according to lean construction principles. This doesn't mean taking the client to a ballgame or dinner. What this means is establishing a dialogue with the client.

LEAN ROOTS

Toyota engineers shifted attention away from the mass automobile production lines and instead focused on craft production. Toyota's rationale behind this strategy was to build a car that a customer ordered, deliver it instantly, thereby building no inventory and eliminating the need for intermediate stores.

"Waste is defined by the performance criteria for the production system," according to information from the Lean Construction Institute, a suburban Washington, D.C. think tank. "Failure to meet the unique requirements of a client is waste, as is time beyond instant and inventory standing idle."

When Toyota – now the world's largest automobile maker – executives and its engineers visited U.S. automobile assembly plants, they saw waste and they saw defects built into cars because of pressure to keep the assembly line moving. U.S. engineers, by comparison, saw efficiency and profit.



Unlike the U.S. automobile manufacturing philosophy of keeping the assembly line going, Toyota will stop its line if a defect or defective part is spotted. The thinking behind this action is that it makes more sense to stop the line to take care of the immediate problem rather than add variability into the final product, the Lean Construction Institute says.

A DIFFERENT WAY

Lean construction relies on specialists rather than unskilled labor. Projects are systematically organized to maximize the overall value, and not its various parts. The building operation and maintenance and the salvage and recycling needs are part of the design of the project, not just last-minute afterthoughts.

With lean construction, decisions are made and distributed by production control committees. On a typical construction project, by comparison, one person may be making decisions on several separate areas.

“ This is a
180-DEGREE
TURN from how most
construction projects are
managed - on the
macro level.”

Lean also tries to make continuous improvements in the work flow and the end product. A construction project managed the traditional way is more concerned with getting the work done and meeting a deadline, rather than continuous improvement.

Teamwork is important to the lean construction concept. It aims to lower boundaries between the project's stakeholders, managers and construction crews so each knows the impact of the other's work on the entire project, which promotes a sense of pride. This is a 180-degree turn from how most construction projects are managed – on the macro level.

With lean construction, projects are broken into pieces and then those pieces are put into a logical sequence, estimating the time and resources – manpower hours – required to complete each activity and then the entire

project. “Each piece or activity is further decomposed until it is contracted out or assigned to a task leader, foreman or squad boss,” the Lean Construction Institute says. “Control is conceived as monitoring each contract or activity against its schedule and budget projections.”

IMPLEMENTING LEAN

Implementing lean thinking will lead to change in almost every facet of the construction project and the company management. Because the lean concept embraces the uncertainty and complexity of construction, you need to have everybody on board with the idea that even the tiniest improvements benefit the entire project.

“Managers in most companies and on most projects have an inflated view of the reliability of their planning system,” the Lean Construction Institute says. “This attitude changes once the decision is taken to make assignments to criteria and the results come in. New opportunities are revealed and new demands arise in all directions.”

The first step in implementing lean construction is re-designing the planning system at the assignment level. This step will assure reliable – and steady – work flow throughout the planning and construction.

Work needs to be repackaged so the various parts of the project can proceed without the completion of the other parts, which ensures efficiency. There also needs to be a system in place that assures resources are delivered on time and delivered to the correct location, the Lean Construction Institute says.

Construction companies that have implemented lean say each change it makes on a project creates the opportunity for more and better improvements. Here are some tips from the Lean Construction Institute on how to begin lean:

Find a change agent. This is a person in the company who makes things happen and gets results.

Get the knowledge. Assemble a team and learn about lean. Once you feel you've mastered the book end of lean, try it out with a project. The best knowledge gained is by doing.

Forget the grand strategy. With lean, it is important to change your thinking. Lean is a systems approach. Before starting a project, it's important to find its opportunities and its potential bottlenecks. This step will reveal inadequacies in other areas that need to be fixed for maximum lean implementation at the project level.

Do it now. To make sure your team is on board with the lean concept, begin as soon as possible with a visible and important activity. **BG**

AWARDS & CONTRACTS

Burchick Construction Company, Inc. has been awarded the general construction contract for the United States Postal Service Floor System Structural Upgrade at 1001 California Avenue, Pittsburgh, PA. LLI Engineering is the designer.

Poerio Incorporated was selected as contractor for the Wesco Headquarters renovations & additional office space in Station Square, Pittsburgh, PA. Design 3 Architects are designing the renovation that is to be completed in 2009.

Poerio was recently awarded the contract for renovations of the JC Penney Department store in Christiana Mall Newark Delaware. The renovations include complete public restroom modernization and redesigned exhaust systems. Howard Nudell is the Architect on the renovations that is to be completed in 2009.

West Penn Allegheny Health Systems selected **A. Martini & Co.** as contractor for the \$1,300,000 renovations to the CT suites at Forbes Regional Hospital. The completion date for this project is January 2010. IKM Inc. is the architect.

Dollar Bank awarded **A. Martini & Co.** a contract for renovations for a new branch bank to be located on the Southside. Project completion is scheduled for September 2009. Integrity Design is the architect.

Landau Building Company was recently awarded a contract from the WVU Biomedical Research Center in the WVU Health Sciences Campus for the \$4 million Vivarium Expansion and Renovation. The incorporation and renovation of existing corridors, offices, suites, miscellaneous labs, and storage rooms are included in the scope of work. Also included in the scope will be demolition and mechanical improvements. The vivarium will remain a normally operating facility throughout the project.

Landau Building Company was recently awarded a contract from Robert Morris University for the extensive renovation of the following student housing facilities: Adams Hall, Hamilton Hall, Hancock Hall, Gallatin Hall and Ross Hall. A completion date of August 2009 is anticipated.

Joseph B. Fay Co. was the successful contractor on a \$113.2 million roadway and bridge reconstruction project

on the PA Turnpike. The project involves work on nearly seven miles of Turnpike between milepost 31 to milepost 38 in Allegheny County.

Gurtner Contracting was awarded the general construction contract for Renovations to Restrooms at Charleroi Elementary Center, by the Charleroi Area School District. Foreman Architects and Engineers is the architect.

The University of Pittsburgh has selected **Massaro Corporation** to serve as the general contractor for the renovation of the Chevron Science Center Café. This 500 square foot project began in early June of 2009 and will be completed by August of this year to prepare for the incoming students for the Fall Semester. Massaro Corporation will also provide preconstruction and construction services for the Chevron and Eberly Classroom and Library Renovations. This 2,000 square foot renovation will be completed for the start of the Fall Semester. The Architect on the project is R3A.

Point Park University has selected **Massaro** as the design/build contractor for the renovation to the university's photography laboratory. The renovations include new film developing and processing fixtures, dark room lighting, and individual work spaces. The project is slated to be completed August 1, 2009.

P. J. Dick Incorporated was selected by the Bechtel Marine Propulsion Corporation to provide general construction services for the new Bettis Materials Research and Technology Complex in West Mifflin, Pennsylvania. The \$12,979,000, 41,000-square foot building, designed by Siemens will house general chemistry and radio chemistry lab space. Construction is anticipated to start July 1, 2009 and be completed in December 2010.

P. J. Dick Incorporated has been selected by the University of Maryland, College Park to provide Construction Management at Risk services for the University of Maryland Journalism Building \$553,825 renovation project. The 22,468-square foot renovation is currently in preconstruction and is scheduled to begin construction in May 2010.

P. J. Dick's Small Projects Group was awarded design/build services for the \$9 million Fuhrer Wholesale Warehouse Expansion project located in the South Side of

Pittsburgh. The 100,000-square foot refrigerated storage facility addition, designed by GMA Design Group out of St. Louis, Missouri, began preconstruction May 1, 2009 and is scheduled for completion at the end of the year.

P. J. Dick's Small Projects Group was awarded Construction Management at Risk services for Three PNC Triangle Park located between Fifth and Liberty Avenues and Market Street in downtown Pittsburgh. The \$1.2 million space renovation across the street from the almost-completed Fairmont Hotels and Resort will feature a center lawn filled with trees, shrubs and seasonal flowers beds lined with pathways and benches. The approximately 10,000-square foot park, designed by LaQuatra Bonci Associates, is scheduled for completion in October 2009.

Rycon Construction, Inc. was recently awarded a contract to provide renovations to the Monroeville Doubletree Hotel (previously named the Radisson Hotel).

Rycon Special Projects Group was awarded contracts for these projects: University of Pittsburgh Ashman Lab Renovation at Clapp Hall, University of Pittsburgh Classroom Renovations & UPMC Presbyterian South Tower Infill Project.

dck international, a dck worldwide company, has been selected to provide Construction Management and Construction Services to restore the Four Seasons Nevis Resort in the Caribbean after it was heavily damaged by Hurricane Omar in October of 2008. The scope of work for this \$30 million project will include the renovation of 100 guest rooms damaged by water, rebuilding of the Great House finishes and surrounding amenities, site work, and testing and repair of mechanical and electrical systems.

dck north america, a dck worldwide company, recently broke ground as the design/build contractor for a new \$55 million Federal prison to be located in Pahrump, Nevada, roughly 65 miles from Las Vegas. The 1,072-bed Nevada Southern Detention Center is expected to house approximately 1,000 federal inmates and detainees. The facility will be approximately 200,000 square feet, including 204 cells and eight 96-bed dormitories.

dck is working under contract to the Corrections Corporation of America (CCA), the nation's largest owner and operator of privatized correctional and detention facilities. CCA was awarded a contract by the Office of the Federal Detention Trustee (OFDT) to design, build, and operate this new correctional facility. CCA has selected dck to be their design/build contractor.

dck pacific construction, a dck worldwide company, began work in May on the renovation of 356 guestrooms and corridors at the Kauai Marriott Resort. New construction of pool restrooms, a children's activity pool, and a wedding kiosk are also a part of this 13-month, \$25+ million design-build contract with Marriott International.

Mascaro Contracting began construction of the Beaver-Rochester Bridge in May. This is the first project awarded by PennDOT District 11 under the American Recovery and Reinvestment Act (ARRA). Mascaro's scope of work on this project involves expansion dam and rocker bearing replacement, structural steel repairs, concrete repairs, and painting for the 1,140 linear-foot bridge.

Mascaro Construction is the construction manager for the \$32 million expansion of the Chevron Science Center at the University of Pittsburgh. Renaissance 3 Architects is the architect for the project, which involves 30,000 square feet of new construction and major renovations to the building.

Jendoco Construction Corporation was the successful contractor for Saint Vincent College's \$35 million Sis and Herman Dupre Science Complex. The project involves construction of a 61,700 square foot new science center and renovations to the existing Chemistry, Biology and Physics Facilities at the Saint Vincent College Campus. MacLachlan Cornelius & Filoni is the project's architect.

Uhl Construction has begun construction on a new manufacturing facility for Selectrode Industries at the Hopewell Business Park in Hopewell Township, Beaver County. The 50,000 square foot project was delivered design/build with Olsen Associates of Butler.

Northwest Savings Bank awarded a contract to **John Deklewa & Sons** for their new branch bank in Mt. Lebanon. The project involves the conversion of a former Friendly's restaurant on Cochran Road. Lami Grubb Architects designed the project.

F. J. Busse Co. was the successful contractor for renovations to the offices of the Constructors Association of Western PA on Banksville Road. The architect for the \$300,000 project is Ross Schonder Sterzinger Cupcheck.

The DePaul School for Hearing & Speech selected **F. J. Busse Co.** as contractor for renovations to their Alder Street facility in East Liberty. Hayes Large Architects is the designer.

Washington County and the Meadowcroft Rockshelter awarded a contract for the Visitor's Center Phase 2 to **F. J. Busse**. Pfaffmann + Associates is the architect for the \$400,000 project.

Carl Walker Construction has been awarded a \$4.8 million contract to build a three-story, 362-car, 115,200 square-foot horizontal addition to the existing parking garage at the Louis Stokes Cleveland VA Medical Center.

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FACES & NEW PLACES

The Duggan Rhodes Group, a construction consulting firm located in downtown Pittsburgh, welcomes summer interns **Joshua England** and **Yi Zhuang**. Mr. England graduated from Pennsylvania State University in May with a B.S. in Structural Design and Construction Engineering Technology. Mr. Zhuang is currently a senior at The University of Pittsburgh and will graduate in December with a B.S. in Industrial Engineering.

Steve Peterman has joined the **Massaro CM Services, LLC** team with over 20 years of experience in the construction industry. Steve was hired as project manager. He has been assigned to the Pittsburgh Public Schools – Frick Technical Academy 43,574 square foot renovations project.

Massaro Corporation hired **Sherry Freeman** as a temporary receptionist and has since been promoted to a full-time position as administrative assistant for the accounting and finance departments. Sherry has earned an associates degree in Specialized Business from The Bradford School.

Michael Larson-Edwards joined the **Massaro Corporation** team in April of this year as a Project Engineer. A recent graduate of The University of Pittsburgh, Mike earned his bachelor's degree in Civil Engineering with a concentration in Construction Management. He joins Massaro from the Minority and Women Educational Labor Agency where he worked for two years while earning his degree.

P. J. Dick's Small Projects Group is pleased to welcome **Noah Shaltes**, LEED AP as a Project Manager. Noah is a graduate of Penn State University with a Bachelor Degree in Architectural Engineering and a Masters of Engineering degree with a Construction Management Emphasis.

P. J. Dick is pleased to welcome Christopher Bekavac as Assistant Superintendent. Chris is currently assigned to the University of Maryland, School of Public Health project in College Park, Maryland. **Laura Malinak** was hired as a Site Safety Manager on the Bettis Materials Research and Technology Complex project. Laura is a recent graduate of Slippery Rock University with a Bachelor's Degree in Science in Safety, Health and Environmental Management.


P. J. Dick hired eight interns and two co-operatives to work in the Safety Department, the Estimating Department and on project sites. The interns are **Matthew Turko**, **Anthony Pinto**, **Jocelyn Smith**, **Shane McCracken**,

Christopher Dunlay, **Roman Edmunds**, **Kelly Maiorino**, **Vincenzo Matarazzo**, **Stephanie O'Neill**, and **Robert Snyder, III**.

Rycon Construction, Inc is pleased to welcome two team members to their Special Projects Group. **Mark Young** has joined as Chief Estimator. Mark has been in the construction industry for over 27 years. **Brandon McKee**, a LEED Accredited Professional and graduate of Penn State University, was named Project Manager. With the addition of Brandon, this brings Rycon's total number of LEED AP's to six.

Mascaro hired **John Yerico** as the MEP coordinator for the Buffalo Federal Courthouse project. **Michelle Santangelo** also joins the Buffalo team as the site secretary.

Mascaro is pleased to announce that the following employees passed the U.S. Green Building Council exam and are LEED® Accredited Professionals: **Mel Miller** and **Bill Greb**. This brings the total count of Mascaro's LEED APs to 30.

Schneider Downs & Co., Inc., promoted **Ted M. Pettko**, CPA to Shareholder in the Pittsburgh office, effective July 1, 2009. Pettko has more than 15 years of experience in the areas of audit, review and compilation and serves clients in the manufacturing, construction, nonprofit and professional services industries. He is a member of the firm's Construction and Nonprofit Industry Groups and Schneider Downs' Audit and Assurance Effectiveness Committee. Pettko is a member of the American and Pennsylvania Institutes of Certified Public Accountants and is a member of the Master Builders Association Marketing Committee. He holds his B.A. from St. Vincent College. 



THE INDUSTRY in the COMMUNITY

Construction Legislative Council of Western PA Honors Colonel Crall

The Construction Legislative Council of Western Pennsylvania (CLC) honored Colonel Michael P. Crall, Commander, Pittsburgh District, U.S. Army Corps of Engineers with the CLC 2009 Community Leadership Award. The award was presented at the CLC's Annual Legislative Dinner, held Thursday, May 7, 2009, at the LeMont Restaurant.

"Presenting Colonel Crall with the Community Leadership Award was an obvious choice. His exemplary leadership, dedication and service in promoting our region's construction industry initiatives are to be commended," said Walter Krasneski, CLC Chairman.

Along with presenting an award, the CLC hosts the Annual Legislative Dinner to build a rapport between construction industry professionals and legislators at the Federal, State, and Local levels.



CLC Chairman Walt Krasneski of SAI Engineers, Mike Dawida of PA Utility Contractors Association with Rep. Joe Markosek.



Walter Krasneski presenting the CLC 2009 Community Leadership Award to Col. Michael P. Crall.



PA Society of Professional Engineers Pittsburgh Chapter Pres. Tom Weber of Swank Co. and Jason Koss of Constructors Association of Western PA.

DRG Helps with Park Restoration

On May 30, members of The Duggan Rhodes Group (DRG) teamed up with staff at The Frick Environmental Center located in Squirrel Hill to assist with some much needed park maintenance. The Frick Environmental Center is a City of Pittsburgh park facility, which provides information and activities concerning the habitat, history and ecology of the Frick Woods Nature Reserve. DRG volunteers, along with family and friends, assisted with the restoration of a handicap-accessible trail through the woods. Volunteers also assisted with clearing out an overgrown space that will be used as a children's garden during some of the Environmental Center's upcoming summer camps. This is the second in a series of activities DRG has planned for 2009 with the help of its community service partner, Pittsburgh Cares.



Members of The Duggan Rhodes Group who volunteered at The Frick Environmental Center included Andrew Rhodes, Will Motley, Ivonne Beltran, Andrew Dombroski and Sarah Shaffer. Family and friends were also invited to attend.



Hilary Brown of Massaro Corporation (far left) with a group of students on a site visit during Professional Day.

Massaro Holds High School Professional Day, Dedicates Josh Gibson Field

On May 22 and 27, Massaro Corporation opened their doors to high school students from all over the city for two Professional Days. On the 22nd, students from Urban Youth Action, Junior Achievement, FAME and CAPA, learned not only about the building trades, but the educational and professional background of all the Massaro staff. The students visited job sites and had an opportunity to talk with the field staff. On the 27th, twenty students from the CLAAY program, a mentoring program several Massaro employees volunteer with all year, were welcomed for the second Professional Day of the month. Massaro Corporation is thankful for the opportunity to work alongside educators and youth organizations in this capacity.

On May 30, the Josh Gibson Field officially opened with a public ribbon cutting. Former Pittsburgh Pirates, the Mayor and several business and community leaders were present for the opening. Sean Gibson of the Josh Gibson Foundation shared the importance and meaning of the baseball



(L-R) John Hoover of Massaro, Sean Gibson, grandson of Josh Gibson, and George Germany of Massaro Corporation at the Josh Gibson Field dedication.

field and introduced the students involved in the youth baseball program. The Pirate Parrot helped warm up the kids for their first game in their neighborhood field and engaged the local fans in the bleachers. The field features a media box, dug outs, bleachers, snack bar, grass in-field and is the home to the Josh Gibson Foundation Youth Baseball Program. During the ribbon cutting presentation, Massaro Corporation received praise from the Pittsburgh Pirates representation, as well as by Sean Gibson.

Mascaro Sponsors CF Walk

On May 7, Mascaro was the site sponsor for the Cystic Fibrosis North Shore Great Strides Walk. Through the generosity of those involved, this walk raised over \$43,000, with \$15,000 of that coming from Mascaro Construction, its employees, and their family and friends.



Mascaro Construction's team of walkers gathers at the North Shore Great Strides Walk.

NAIOP Tours Consol Headquarters

NAIOP Pittsburgh held a networking event June 11 on the rooftop of the new Consol Energy headquarters in Southpointe. Approximately 75 members and guests toured the building at the invitation of developer Horizon Properties. **BG**



Oxford Development's Anne Lewis and CEO David Matter at the Pittsburgh Public Theater's VIP Party.



Jamie White, partner at LLI Engineering (left) with Pat Tracy and Amy Brocato of Langholz Wilson Ellis Industrial.



Golfers from AMB, Inc. enjoy the Pittsburgh Builders Exchange outing at Cranberry Highlands on June 5. From left to right are Ed Simon, Frank Borgo, Brian McKay & Dan Hensehel.



WTW Architects CEO Rich DeYoung and wife Candace (left) with Highmark's Jean Zellers and husband Rob Zellers, author of Harry's Friendly Service at Pittsburgh Public Theater's VIP Party.

MBA Membership

MBA MEMBERSHIP

The Master Builders' Association (MBA) is a trade organization representing Western Pennsylvania's leading commercial, institutional and industrial contractors. MBA contractors invest in a skilled workforce, implementing award-winning safety programs and offer the best in management and stability.

The MBA is a chapter of the Associated General Contractors of America, the nation's largest and oldest construction trade association. The MBA is committed to improving the construction trade association through education, promoting technological advancements and advocating building the highest quality projects for owners. To learn more go to www.mbawpa.org.

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Closing Out

People, Technology and Design

By Dutch MacDonald

The design of buildings and places today can be informed by a variety of factors, including the impact of emerging technologies. These technologies include building control systems, energy conservation and recovery, building envelope strategies, and integrated communications. In addition, the technologies inherent in the design process - notably Building Information Modeling (BIM) and mathematical 3-D modeling - have a profound impact on how architects and engineers approach design.

The promise of BIM is that it has at its foundation a database of powerful information about the building's components, systems, and projected performance. In theory, all disciplines contribute to the model, efficiencies are gained, and coordination issues are detected early. Similarly, with mathematical 3-D modeling, novel forms and complex surfaces can be modeled and fabricated. These models can also be used to create compelling images and animations that give a sense of how the building might look when constructed.

But in the end, does all this technology make for a better built environment? Do we really want the future described in those persuasive images? Does it create space that meets the needs of the people that inhabit it? Is it comfortable, does it inspire, does it delight?

Henry Dreyfuss, the 20th century industrial designer who penned the classic *Designing for People*, wrote:

"We bear in mind that the object being worked on is going to be ridden in, sat upon, looked at, talked into, activated, operated, or in some other way used by people individually or en masse. When the point of contact between the product and the people becomes a point of friction, then the industrial designer has failed. On the other hand if people are made safer, more comfortable, more eager to purchase, more efficient - or just plain happier - by contact with the product, then the designer has succeeded."

Although Dreyfuss was talking about the products of industrial design, these words of advice are equally significant for the design of our environment. This salient message, that our designs must thoughtfully consider the end user, is more important than ever. An understanding of human needs - physical, emotional and intellectual - is critical to this endeavor.

The problem is that people are messy. Our requirements are fuzzy, our needs are variable, our desires change. And all of the fuzziness of an imperfect biological creature is difficult to program into a software package. The BIM models may tell us that ultimate thermal comfort will be achieved; but if the occupants can't figure out how to adjust the temperature and can't open a window, they might be anything but happy. A dynamic form might be achievable using the technologies at our disposal; but if the space doesn't inspire or improve the human condition, was it worth the effort?

I am by no means a Luddite. New technologies are leading to greater efficiencies in the design process, a better understanding of building performance, and truly captivating spaces. But it can be too easy to be seduced by the promises of software and systems without question. As we inevitably incorporate these new technologies in design and construction, we cannot forget that we are designing for people.

Armed with that as our goal, we can bend technology to enhance the utility, comfort, and experience for the occupants of the places we design. The power of the information embedded in these new processes can be used to map to the messiness of humans, and create better environments.

In the end, it is in the thoughtful consideration of the intersection of people, technology, and design that we will succeed in building the future. **BG**

Dutch MacDonald is an architect and the Chief Operating Officer at MAYA Design, a human-centered design and technology consultancy

Jeff Senn, MAYA's chief technologist, highlights the dangers of thinking only as a technologist or engineer by using the lowly parking lot as an example:

We math-centric engineers would love to factor out (and ignore) all of those vague, hard-to-characterize human issues that affect the perception of a problem. But in

practice these often turn out to be where the amazing success or dismal failures in design are found. A parking lot is more than a pad of asphalt or concrete. Parking lots have painted lines. Those lines obviously have no real power or constraining force, and our well-intentioned engineer might reasonably doubt their efficacy. Clearly some sort of cement barriers

would be far safer and more reliable! Yet by mere suggestion, those treacherously vague paint lines work wonders at creating order from potential chaos. Those lines make the physical space "human literate." And all things considered, they are not only less expensive but probably work better than a more "well engineered" solution.

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