Breaking Ground

THE MAGAZINE OF THE MASTER BUILDERS' ASSOCIATION OF WESTERN PENNSYLVANIA
JULY/AUGUST 2007

THE HEALTHCARE CONSTRUCTION PROGNOSIS: CONTINUED RECOVERY

The New Children's Hospital Rises in Bloomfield

- The Hospital Construction Boom
- Mid-year Regional and National Market Updates
- Patient-Centered Care: Changing How Hospitals Are Designed
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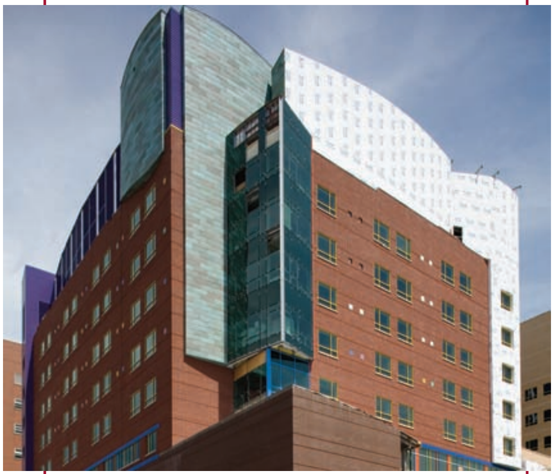

Cover
New Children's Hospital Clinical Services Building
P. J. Dick/Barton Malow Jt. Venture, Contractor
Astorino, Architect

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Features & Departments

Publisher's Note

"This is a great town to get sick in!"

While researching this edition of BreakingGround I was told that by one of the subjects I was interviewing (and whose identity I will protect under some Amendment). In typical Western Pennsylvania vernacular, he meant that in a good way. What he was saying was that if you have the bad fortune to have a serious illness, you have the good luck to be in Pittsburgh to be treated.

The legacy and future of the healthcare industry in metropolitan Pittsburgh are not unique, but there aren't many cities in the country that have the breadth of first-class facilities and the research track record to keep grants and new ventures coming. Healthcare is unquestionably going to be one of the foundations of our economy for the coming few decades.

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Most people are familiar with the Pittsburgh medical 'firsts' (polio vaccine, first multiple organ transplant, etc.). I hear about them all the time in my line of work, but even someone as jaded as I was surprised by some of the quiet innovations that continue here.

Did you know that we have one of the world's leading wheelchair designers working in Pittsburgh? Tim Powers, who heads Astorino's healthcare practice, told me of the lab they were designing as part of the Veterans Administration hospital consolidation project. The group is called the Human Engineering Research Lab, and it's associated with the University of Pittsburgh and located at the VA Medical Center. The group, headed by Rory Cooper, designs prototype wheelchairs that can go up and down stairs or over rocks.

The Veterans Administration wasn't a place I expected to find that kind of innovation, but it's part of a national trend at the VA to respond to a very different kind of veteran population that existed a decade ago.

In the private sector there is also a trend toward focusing medicine on the patient. That sounds a little obvious, but I'm speaking about all aspects of healthcare, even the business side of the shop. There is real momentum for patient-centered care, and administrators are finding that the patient-oriented solutions often have very beneficial side effects that help solve other problems. As you might surmise, the ramifications on design are many.

We're in the middle of a lot of healthcare construction right now. For hospital designers and contractors it's a very good time, but it's also early in the cycle. Several of the new facilities are going into virgin neighborhoods, areas without ancillary properties that pop up near hospitals. Real estate in Lawrenceville and Aspinwall, for example, will be very hot for the next few years.

This is one of those moments where the right time, place, demographics, and coincidence all seem to converge. Maybe my friend would say it's a good time to get sick too.

Sincerely,

Jeff Burd

News From The Street

Pitt, WVU Announce Major Capital Plans

Spokesmen from the University of Pittsburgh and West Virginia University were among more than a dozen private and public owners and agencies who detailed capital programs at the May 16 Road to 2010 construction symposium put on by Navigant Consulting Inc. During a segment devoted to higher education spending, Joseph Fink from Pitt, and Joe Fisher from WVU, went into greater detail about previously announced capital programs.

The University of Pittsburgh plan had been previously announced as a $1 billion capital-spending program, which included some ongoing work, over the next decade. Fink focused on the highlights of a $287 million plan for construction between now and 2010.

A couple of significant renovation projects are expected to begin by fall 2007. The recently acquired University Club will receive $14.6 million in renovations. Landmarks Design Associates is the architect for the job, and Massaro Corp. has been chosen as construction manager. Mervis Hall will be renovated to create a new Financial Analysis Lab in fall 2007. The architect for the $3.7 million project is The Design Alliance. Contracting for the job should take place later this summer.

Among the larger new construction projects at Pitt is the 80,000 square foot addition to Salk Hall. The $50 million research tower will involve Commonwealth funds, and is scheduled for construction in 2009. Falk Hall will be expanded and renovated in a $13.7 million project slated for construction in fall 2007. Perkins Eastman is the architect, and P. J. Dick Inc. is the construction manager. The final new construction will be the Robinson Court Recreation Complex, a $22 million project creating baseball, softball and soccer fields, as well as a band building with locker room and training facilities. Construction is scheduled for summer 2008.

Fink also detailed several larger renovation projects to begin in 2008 or later. The largest is the multi-phase Benedum Hall renovation, valued at $50 million, including Commonwealth of PA funds. Scheduled for spring 2008 construction, the project is being designed by EDGE studio. P. J. Dick Inc. is the construction manager. Also slated for 2008 construction is the renovation of the Graduate School of Public Health complex. STV Group is the architect for the $42 million project. Phase 2 of the Clapp/Langley/Crawford Complex renovation is being designed by IDC Architects. Massaro Corp. is the construction manager for the $12 million project, which should start in 2008. Spring 2008 will also be the construction start for the Chevron Science Center Phase 2 project. Massaro Corp. will construct the $6.3 million project, and Renaissance 3 Architects is handling the design.

West Virginia's Joseph Fisher laid out the details of WVU's capital construction program for their fiscal years 2007-2011. There were 21 major projects involved, totaling over $188 million in current construction costs. The individual projects that Fisher detailed are listed in the table above.

Project	Start date	Estimated cost
Evansdale PE Building/Outdoor Recreation	FY 2007	$18,700,000
Student Health/Carruth Counseling Center	FY 2007	$7,500,000
Rare Book Preservation Center	FY 2007	$2,000,000
Summit Hall Dining Hall	FY 2007	$2,300,000
New Nursery School	FY 2008	$500,000
Facilities Maintenance Centers	FY 2008	$2,000,000
Classroom Modernization	FY 2008	$4,000,000
Transportation Center and Garage	FY 2008	$8,000,000
Law Center Addition	FY 2008	$12,000,000
Ag. Sciences Building	FY 2008	$1,000,000
Evansdale Dining & Modernization	FY 2008	$5,700,000
White Hall Phase 2	FY 2008	$15,000,000
Jackson's Mill Cottage Renovations	FY 2009	$1,000,000
Dadisman Hall Renovations	FY 2009	$7,000,000
Art Museum	FY 2009	$4,300,000
PRT Upgrades	FY 2009	$10,000,000
Stansbury Hall Renovations	FY 2009	$50,000,000

Projects detailed by West Virginia University at the Road to 2010 symposium.

Presenters of the higher education panel at the Road to 2010 were (l-to-r) Peg Blythe of Penn State, Jack Mascaro, moderator, Joseph Fisher of WVU, Joseph Fink of Pitt, and Ralph Horgan of Carnegie Mellon

Pens Arena Moving Forward

In May, the Penguins and the Sports and Exhibition Authority announced the signing of HOK Sport as architect and ICON Venue Group as program manager/owner's rep for the new $220 million arena. Proposals are currently being sought for construction management services. Responses are expected from teams involving several local contractors.

HOK Sport was the design architect for both PNC Park and Heinz Field, which were built at the beginning of the decade. HOK has designed a number of groundbreaking stadiums prior to the North Shore stadiums, including Camden Yards and Jacobs Field, and were the architects for the NHL Nashville Predators arena.

ICON Venue Group is a merger of the Romani Group of Denver, and Germany's Anschutz Entertainment Group (AEG). ICON is an owner's rep and sports venue management company with facilities under contract worldwide. The Romani Group was involved in the construction of Denver's Invesco Field and Coors Park, as well the new Pepsi Center. AEG represents soccer stadiums worldwide, acting as manager for Wembley Stadium and the O² Arena under construction in London.

Further Mechanics Lien Law Amendments Considered

Since the PA state legislature passed Act 52 last year amending the Mechanic's Lien Law of 1963, there have been several unintended results that have inspired changes by many factions within the design and construction community in Pennsylvania. Land surveying and home building entities have already introduced amendments to improve the law from their perspectives, and others are considering a leap into the game to assure their interests are covered. One entity, the General Contractors Association of Pennsylvania, has yet to officially weigh in on the matter, but does have draft language written to address four provisions.

The provisions would define the construction contract as a written agreement, assure that no party to the project pays twice for the same work, require notice of commencement and furnishings to ensure the owner or contractor is aware of when and who is doing second and third tier work, and simplify the procedures for "bonding off" liens without limiting the right to dispute problems after the bonding.

The primary problems deal with the ability of sub-sub-contractors and downstream suppliers to lien a project directly, even though the owner of the project didn't have an agreement with the firm or even know the firm was involved. Owners and general contractors are concerned that they would have to pay twice for work done because a downstream supplier or subcontractor was not paid by their contractor, or was in dispute over the work, in order to expedite the removal of the lien. Another short-term solution is the bonding of the payment to a sub or supplier who slapped a lien on a project. That process is cumbersome and can limit the rights of the bonding entity to dispute the payment later.

The changes would also provide for the issuance of notices of commencement and furnishings, which notify owners and contractors when any portion of the work has started, and who is doing the work. This prevents the use of vendors and subs who have caused problems in the past, and allows progress to be tracked to progress payments accurately.

"One of the problems with the amended Lien Law from the beginning is that owners could have a lien filed against their project by companies they didn't even know existed," says Matt Jameson, of Babst Calland Clements Zomnir PC. "The notice of commencement, which would go to the owner, lets everyone know that something has started, and who is involved, so the owner knows what he's paying for." BG

REGIONAL MARKET UPDATE

Much like a bull market, the regional construction market is in the midst of a cycle of good news begetting more good news. During the first half of 2007, a number of major regional successes have led to the announcement and rapid progress of a handful of $100 million plus projects, several of which have already spurred significant development plans in surrounding properties.

First, some numbers. Preliminary research on the contracting and start activity in the seven county metropolitan areas shows a pattern much like the national market, only with more intensity. The glum news is that housing construction continues to lag, although at levels that were anticipated. Compared to 2006, the number of single-family starts is down nearly 20%. It does appear that the second half of 2007 will compare more favorably to the second half of 2006.

On the non-residential side the news very bullish. Contracting for non-residential projects through the first six months of this year is approximately $1.6 billion, equaling the high levels of the same period in 2006. Construction is strong in virtually every segment of the market; with office construction showing more strength than was expected. Contracting in the public school and municipal sectors remained sluggish early in the second quarter, but is also showing signs of increased activity in mid-year. With at least three projects over $100 million scheduled to start in the fourth quarter, and the possibility of either the Penguins Arena or the Majestic Star Casino getting underway by year's end, it seems likely that non-residential contracting for 2007 will end up beyond the $3 billion mark for the first time since 2000.

The highlight of the second quarter was the announcement by Westinghouse Nuclear to locate its new campus in Cranberry Woods, near the intersection of Interstate 79 and Route 228. The announcement immediately energized plans for the Cranberry Town Centre and the commercial mixed-use Lauth Group development across Route 228 from Cranberry Woods.

Since the announcement, interest in the Cranberry/Marshall/Mars corridors of Route 19 and 228 has soared. Diane Sheets, Executive Director of Butler Community Development Corp., made reference to inquiries from other corporations about similar sized property within days of the Westinghouse announcement. The Equitable Gas building on the North Shore was quietly advanced for sub-lease, giving further credence to claims of Equitable's moving to the Lauth development in Cranberry. Leasing in newer flex buildings coming on line in Cranberry has been brisk, and plans for additional projects have been popping up in several nearby municipalities.

On the retail front a number of projects moved forward. Tanger Outlet Centers started construction in June on a 343,000 square foot mall across from the Meadows Casino. Oxford Development joined forces with Manor Development to develop a 400,000 square foot retail development in Murrysville. The Settler's Ridge shopping center being developed by Faison Development began the early stages of contracting. Even struggling centers had good news. WalMart announced plans for a 220,000 square foot supercenter in the former East Hills Shopping Center, which has been without a plan since its purchase by Petra Ministries in 1999. And the Pittsburgh Mills landed several tenants to begin absorbing vacant spaces left by the Lucky Strike Lanes, and new owners Zamias Services indicated interest in the never-occupied NASCAR Speedpark.

With work underway and pre-selling succeeding at Piatt Place downtown, Millcraft Industries announced the signing of the YMCA to occupy 38,000 square feet of the former G. C. Murphy building on Fifth Avenue. The YMCA will take more than half of the retail/commercial space in the Market Square Place, a redevelopment of the Murphy's building that Millcraft hopes to get underway this year.

The University of Pittsburgh and UPMC also pushed forward more plans for capital spending. Pitt announced its latest ten-year plan, which topped $1 billion. Included in that program are more than $200 million in projects that will happen in the next two years, many of which are already contracted. UPMC put its plans for the UPMC Passavant Hospital expansion before the McCandless Planning Commission, telling that municipality that it plans to start work before year's end.

While it's possible that not all of these projects will get started in 2007, the effect of having so much new construction out on the table is like good news to the stock market: it brings buyers out. One of the symptoms of a down turning economy is that it makes owners cautious, not wanting to spend money ahead of bad business conditions.

Here in Western PA, the conditions are very much the opposite, with owners worried more now about missing out on great opportunities. A continuation of that optimism will carry a strong construction economy into 2008. It's normal for that kind of tide of good news to lead to overbuilding, a condition that we Pittsburghers don't see very often. It will be a good problem to deal with in 2009.

NATIONAL MARKET UPDATE

The first half of 2007 has created two interesting questions about the construction and real estate market nationally. How long until the housing slump turns around? And, how long can non-residential growth go on without new housing support?

While neither question has an answer yet it is clear that the housing decline is not going to be short-lived, probably lasting into next year, and that the strong non-residential market has legs to carry growth along through 2007 and into 2008.

AGC of America's Chief Economist, Ken Simonson, addressed the state of the market in a speech May 4. In it he stressed that the major economic influences were generally positive. Gross domestic product growth has slowed to 2% or less, which means that the Federal Reserve will have less incentive to fear inflation. Consumer inflation rates are low, remaining below 3%. Job growth isn't great, but unemployment is steady at 4.5% or less. Most influential right now is the fact that real wages and personal income are rising, up about 2%.

Using his study of the economy, here is the status of the major sub-sectors of the national construction economy:

- Manufacturing building construction is up due to higher exports and higher capacity utilization. Most U. S. manufacturers have made accommodations to adapt to higher foreign demand, and are positioned well to meet the soaring demand of Chinese, Indian and African markets. Continuing the recovery from the 1998-2004 slump, construction of new manufacturing space should grow by 5-10% in 2007.

- Demand for construction of alternative energy sources has created a marked increase in power plant projects. Private electrical power projects have increased 15% over 2006, and more than 100 new plants are being planned across the country. In total, construction at power plants should be up as much as 20% in 2007.

- Healthcare construction is being driven up by demographics and advancing technology. While shrinking budgets and insurance reimbursement is limiting growth to a degree, healthcare construction is still projected to increase by 10-12% over 2006.

- After an extended decline, office construction grew in 2006, and the recovery is carrying into 2007. The continued absorption of vacant space and the job growth should support further expansion of the office market, although the increased merger activity and accompanying job elimination may slow the market somewhat. Office construction for 2007 is forecasted to be 5-8% higher than last year.

- Retail and warehouse construction continues to defy the effects of gravity and the housing slump. Well into the fourth year of double digit growth, the retail market may finally reach its peak later this year, but driven by rising personal income and baby-boomer spending, the big-box retail market has grown by more than 15% so far in 2007. The decline in housing will depress demand for neighborhood retail for the next 12-24 months, but retail should still see an overall increase of 2-5% in 2007.

- Educational facilities construction is diverging along public/private lines. Enrollment in primary schools is finally declining, although the demographics remain strong in high schools and colleges. Declining property taxes, which are falling with housing prices, is dragging down spending on K-12 schools. Private schools and colleges, however, continue to experience both supportive demographics and the strength of endowment growth and further gifts. The forecast for 2007 is for 6-8% growth in 2007 over 2006.

- Highway and bridge construction is one sector that will experience exceptional dollar volume growth without any real growth. Increases in asphalt prices have been higher than anticipated and furtherincreases in cement demand have created material inflation that threatens to outstrip any funding increases. The prospects are good for declining fuel tax revenues, which coupled with high asphalt prices,could result in an actual reduction in the amount of road paving and reconstruction. Highway contracting value should rise between 6-9% in 2007.

Construction data from private and public sources during the first five months of 2007 has fluctuated significantly from month to month, and from source to source. This kind of inconsistent reporting is typical of a period when the economy is turning or when there is a divergence between the residential and non-residential markets. For those looking to track the market's progress, the most reliable data will be the semi-annual or year-end reports.

As if to emphasize that point, the Department of Labor released its semi-annual construction spending forecast, based on year-to-date numbers through May, which showed flat spending compared to 2006. Hidden within that announcement was the fact that the residential and non-residential markets were equally below and above last year's output. Residential construction is down 15% from 2006, while non-residential spending is up 14%.

The more important factors to watch during the second half of 2007 will be the prices of oil and basic metals, like steel, copper and aluminum, and the major signposts of the economy, like interest rates or investment markets.

One of the buying factors is likely to be the dynamics of the Federal Reserve and its reaction to general economic indicators. While a further slowing of the GDP will not bode well for the economic direction, it will act as a further incentive for the Federal Reserve's Open Markets Committee to recommend interest rate reductions. Such actions are anticipated in fall 2007 to help keep the economy from falling into recession. Earlier or steeper federal funds cuts will be a buying signal for the stock markets, and will make borrowing for construction and capital improvements more feasible.

The one imponderable at this point is the recovery of the housing market. Population growth is a national fact. With a healthy, if slowing, economy, the demand for housing is probably not far off where it was prior to the bubble bursting. The declining values and tightening in lending have worked to make the decline steeper, but have also worked to 'clean out the suckers,' in poker parlance. Much like a stock market correction, this housing slump will probably continue until the buyers deem that there is little or no bottom remaining. BG

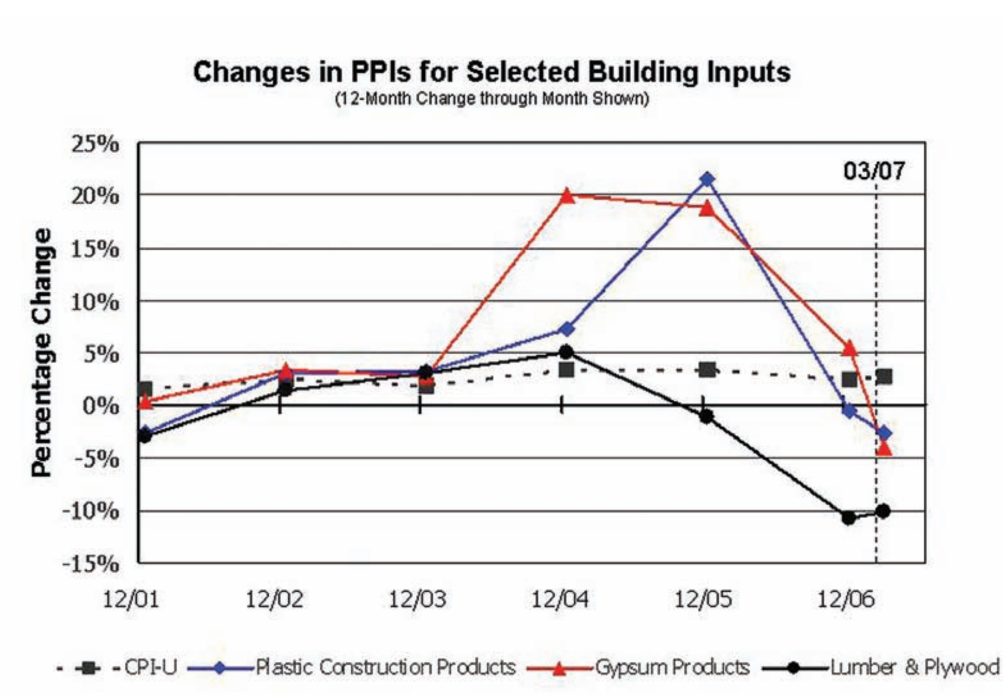
WHAT'S IT COST?

As the construction season gets into full swing, with highway and school work at top speed, there is good news in that the trends in material costs that emerged early in the year have held true. While it's never great news that essential materials are increasing at rates two or four times the rate of inflation, it is good that the increases that were planned in February have held true; that is, unless you forgot to plan for it.

Like last year the basic cost drivers right now are the diminished housing demand (keeping lumber, plastics, drywall, etc. under control), increased oil pricing (driving transportation and asphalt prices sky high) and unpredictable global demand (which is making the metals market higher but unpredictable).

In our region, the costs for the basic materials for buildings has followed expectations to the point where there are many fewer projects being blown up by high bids. That's no consolation if you're working on one that has been sidetracked, but generally there seems to be a better understanding of what construction costs now during the design phase. The bidding anecdotes this year seem to follow this script: budget is $X, bids come in at $X + Y%, and project goes ahead anyway. That seems to indicate that the owners are putting projects out with a sense of hope that is backed up by an acceptance, even if grim, of the market's reality.

The two most volatile categories of materials are the metals and asphalt. It doesn't appear that either steel or copper are going to go into a runaway cycle, but both are at levels that are high historically. Copper is actually slightly lower than last year's price, but the incidence of job-site theft is still high. Steel shapes and rebar seem to have leveled off at the spring price points, but there was some creeping of scrap prices in May and June, which bears cautious watching. And the anticipated renewal of higher demand from China and India hasn't yet materialized. The recent decline in the Chinese stock market, instigated by action of the Beijing government, will likely keep that country's import demand lower than expected.



Average costs for basic materials associated with residential construction are following the trend of the consumer price index. Source: Bureau of Labor statistics.

Space	Sq. Ft.	Cost	Cost/SF
EP Lab	550	$244,000	$444
Nursing Unit cosmetic upgrade	21,600	$1,765,000	$82
Dialysis Unit	3,930	$440,602	$112
EEG Renovation	533	$164,731	$309
Nuclear Camera Replacement	400	$78,806	$197
Nursing offices	945	$127,069	$134
Angiography	1,530	$380,163	$248
Hyper/hypobaric Chamber	1,350	$277,983	$206
Cardiology Offices	10,800	$1,135,732	$105
Linear accelerator	3,000	$1,420,000	$473
CT/PET scan	6,700	$2,000,000	$299
Radiology suite	4,700	$925,000	$197
CT Suite	600	$240,000	$400
Medical office renovation	9,400	$1,420,000	$151

An analysis of sample healthcare projects in 2007

Asphalt pricing, which follows diesel fuel prices in lock step, have jumped up dramatically in Western PA since the opening of plants. Last year's price fears actually caused project cancellations that created more supply at year end, and the plants closed in November with prices as low as $25/yard. Current bidding shows asphalt paving drifting above $45/yard. An extended period with oil at or above $70 per barrel will certainly grow fuel surcharges; and, without any planned expansion of diesel refining capacity, the price of diesel and asphalt will probably go higher before summer ends. A bad hurricane season, especially in the Gulf of Mexico, could begin another aggressive pricing spike.

Since this is a healthcare-focused edition, it is a good time to examine what it costs to build medical buildings these days. The national cost per square foot for new hospital construction averages between $300 and $450. The new construction in Pittsburgh is very limited normally, but we have over 1.5 million square feet under construction right now. Although those are specialty facilities (Children's and Veterans), which are a bit pricier, those costs are within the higher end of that range.

Healthcare construction costs are driven up by the increased labor that arises from the limited access and special hours that are usually demanded by the nature of the clinical space. There are also a lot of medical-specific extras, like thick concrete vaults and RF shielding for radiology, and increased HVAC needs or specialty plumbing, that add significantly to the cost. On top of those costs are the extra costs associated with ICRA measures, which add special work conditions and limit productivity dramatically.

The chart above lists a sampling of projects that have bid or are under construction in Western PA (most are in Pittsburgh) since January 1. All of these jobs involve renovation of space, rather than new construction. Only one project comes in under $100/square foot, and it is unique in that it involves only finishes.

These costs are fairly consistent with pricing for healthcare over the past few years. Commented TEDCO President Jim Frantz, "The entry price for healthcare is $200 a foot. It only goes up from there." BG

The new Children's Hospital fits into its new Lawrenceville/Bloomfield neighborhood. (Photo Credit: WingPix Aerial Photography)

the Prognosis *for* Healthcare Construction *is* Continued Recovery

A decade ago healthcare construction was in a recovery mode after a few very unpleasant years. The mid-1990's saw healthcare costs get ahead of reimbursements and the major hospital systems in the region took it on the chin while they adjusted. While the bankruptcy of the AHERF system received the most press, few hospitals were prospering.

Toward the end of the decade, however, the University of Pittsburgh Medical Center had moved into high growth mode, Allegheny General Hospital had emerged on its own, and merged with West Penn and most of the regional hospitals were doing construction in anticipation of the services that were perceived to be most needed and profitable. Assisted living and nursing facilities were being built at a high rate to match the growing demographics of our aging population.

Over the next few years almost every hospital received significant renovations or an addition, often in response to reorganization after a merger with UPMC or the West Penn Allegheny Health System. During this period the $105 million Hillman Cancer Center was built, along with ten regional cancer centers, and planning was beginning for an outrageous project: a new Children's Hospital.

Now, near the end of the first decade of the 21st Century, healthcare construction is in the midst of a growth cycle that dwarfs that of a decade ago, with almost 2.5 million square feet of hospital space actively being designed or built (including that new Children's Hospital), and with more than 1.5 million square feet of elderly or continuing care facilities in progress.

As is expected, the health system with the most plans is also the largest. The University of Pittsburgh Medical Center is in the midst of building and planning three projects of more than $100 million.

The new Children's Hospital has been under construction most actively since January 2006. When completed the facility will include 1.4 million square feet, and cost $575 million.

UPMC Passavant plans to add onto the east wing of its hospital.

UPMC's next project in the queue appears to be the expansion of the UPMC Passavant Hospital in the North Hills. Plans presented to Town of McCandless in May showed a seven-story, 100,000 square foot addition, plus improvements to the hospital and parking. The project, which is being designed by Burt Hill, is expected to cost $110 million. The other major investment that has been in planning for some time is the second Hillman Cancer Center, proposed for the several sites in Shadyside. The facility will involve renovations to the former Ford Motor building, plus new construction of between 200,000 and 300,000 square feet, and cost upwards of $150 million. Zimmer Gunsul Frasca Partnership of Seattle has been hired to begin the architectural work. While no schedule for the project has been announced, demand for the space is high.

The other major hospital project underway, albeit more quietly, is the Veterans Affairs project to consolidate three of its Pittsburgh facilities into two. Dubbed the Capital Asset Realignment for Enhanced Services (CARES), the program involves 530,000 square feet of new construction in Oakland and Aspinwall, with a budget of $190 million. Local firm Astorino is the lead architect for the project, which has also involved a handful of other architectural firms to design some of the individual components.

The project involves approximately 260,000 square feet of new space, expected to cost $70 million, plus major infrastructure improvements, at the H. J. Heinz Division in Aspinwall. The main components there are a new Ambulatory Care Center, already under construction by P. J. Dick, 23 Residential Villas and an Administrative Building.

At the University Drive Division in Oakland, a new ten-story Research Building and five-story Behavioral Health Center will add 240,000 square feet of space at a cost of $107 million. This is in addition to the 1,400-car, $37 million parking garage being completed there by P. J. Dick and RTKL Architects.

Outside Allegheny County, three of the counties with high growth municipalities and aging rural or mill town populations have hospitals that have struggled to meet the needs of such divergent patient demands. Each has recently decided on a course to create new facilities.

Butler Health System is one of the outlying regional hospitals that has been struggling for several years to determine where to build. The high-growth areas are concentrated in the dense suburban municipalities in the southwestern corner of the county, while the aging demographic was spread widely across the central and more rural northern areas of Butler.

Construction is progressing on the Research Building at the new Children's Hospital.

Within the past five years Butler has examined plans for a new hospital, as well as expanding its existing facilities, and building satellites for surgery and specialties. At the end of 2006, the Board of Directors decided on a course of action that would expand the East Brady Street main campus, and build multiple outpatient and inpatient facilities throughout Butler County. The total investment, including approximately $10 million for information technology, will reach $140 million.

To the south, Washington Hospital faces very similar demographics. The southern Pittsburgh suburbs, like Peters Township and the Canonsburg area, have grown rapidly over the past decade, and that growth is continuing southward toward the county seat itself. At the same time, Washington County is home to large numbers of aging people, many whose livelihood was built on former steel and coal industry employment. On a regular basis Washington Hospital reaches full capacity.

Its solution is to add 130,000 square feet to the hospital. Included in the addition is the expansion of the facilities that tend to serve aging boomers and young families most: emergency department, operating rooms, and critical care. When the new construction and subsequent reconfiguration are done the project will be worth more than $60 million. The project is being designed by Mt. Lebanon architects Valentour English Bodnar & Howell, in conjunction with Cannon Design Partnership of Buffalo. Whiting-Turner Construction is the construction manager, and has already put out for bid some of the preliminary packages, worth more than $5 million. Bidding on the major portion of the addition is proceeding through this summer.

In Westmoreland County the same growth and demographic issues spawned a different response. In 2004, three community hospitals in Westmoreland County, Latrobe Hospital, Frick Hospital and Westmoreland Regional, merged to form Excela Health.

More than $10 million has been spent since the merger on improving and consolidating some critical spaces like the emergency room, cardiac care and obstetrics. The current focus is on site selection and master planning for a new Westmoreland Hospital, which could cost $400 million.

Even as far out as Indiana, healthcare service demand has pushed officials at the Indiana Regional Medical Center to start planning for a new patient tower. In early development, the tower is expected to cost more than $100 million.

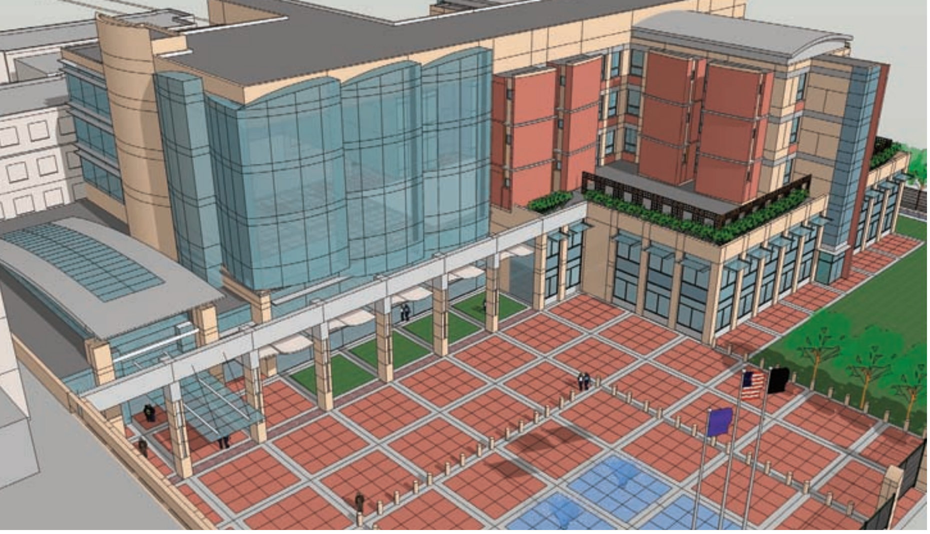
All this new space is being developed at a time when a number of social and business issues influencing healthcare construction are coming to a crescendo, causing providers and architects headaches in figuring out how to respond, and how to pay for it. Issues like infection control, patient privacy and patient-centered care are adding space and cost to the traditional formula for medical construction. At the same time, no panacea has emerged to solve the problems of health insurance reimbursement.

What many view as a train wreck waiting to happen is the collision of the healthcare providers response to ever-growing needs of aging Baby Boomers and aging facilities, with the state and federal moves to cut funding and reimbursement. The federal budget will reduce Medicare and Medicaid payments by $20 billion during the next five years, while Pennsylvania is aiming to reduce its expense by $150 million.

While much of the clinical space is developed to respond to the needs of the patients, it's also true that many recent expansion or upgrade projects have been driven by business reasons.

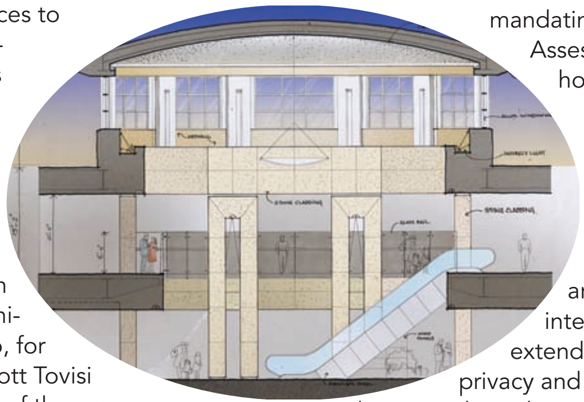
As Baby Boomers age there will be much greater demand for services like orthopedics, urology, Alzheimer's treatment, and other geriatric specialties. There will have to be space built to accommodate this demographic surge; yet, much of the increase in space of late has been focused on uses that drive patient admission (like emergency rooms) or that is favored by reimbursing entities (like expanded outpatient services or diagnostics). Until a solution emerges to the insurance dilemma, expect to see medical construction continue to follow clinical demand and reimbursement expectations.

Diagnostic facilities are a good example of this dynamic. Early detection is a critical factor for treatment of most life-threatening diseases. As early detection has



(above) Rendering of the Veterans Administration University Drive new facilities (below) Cross section of the new Ambulatory Center at the VA's Heinz Division in Aspinwall (Courtesy Astorino)

contributed to ever-increasing survival rates of cancer, for example, demand has exploded for more and better diagnostic technology and facilities. Since early detection also reduces the amount of long-term hospital stays, the healthcare insurers also support improved and expanded diagnostics, while at the same time adding diagnostic services to most patient's deductible expenses, which in turn creates demand from consumers for more competitive diagnostic facilities. Feeling groggy yet?



"Until the last decade or so this region was entrenched in managed care plans with minimal co-pays, $10 bucks or so, for diagnostic services," says Scott Tovisi of BXBenefits. "Today, 100% of the group plans we offer contain deductibles for diagnostics, so if a patient needs an MRI or blood work, he checks out the price-Highmark publishes comparative costs online now." Diagnostic service providers have been influenced to improve the economies of their business and offer better services to compete.

The same cost factors have also driven the construction of outpatient surgery centers over the past decade. Insurers were happy to reward advances in surgical procedures and anesthesia that reduced recovery time. Overnight hospital stays have been eliminated for many procedures, reducing the cost of the procedure dramatically. The outpatient centers were very profitable, and became real estate investment opportunities for the surgeons themselves.

That trend may be reversing, however, as hospitals put pressure on physicians to do outpatient procedures in hospital operating rooms, and as the percentage of elderly surgery patients increases. While the insurers like outpatient surgery, the risk of post-operative complications rises with age, making hospital stays more desirable. With the population aging and living longer, the trend toward inpatient surgery will continue.

The influence of insurance reimbursement will remain a driving force in the development of healthcare facilities, like diagnostic and outpatient surgery centers, until the industry or government devise a system that removes health insurance from the equation. Don't bet the farm on that just yet.

In the past few years two other regulatory influences have affected design and construction, particularly from a cost perspective. The Health Insurance Portability & Accountability Act of 1996 (HIPAA) was strengthened in April 2003 and has created privacy and security considerations that now influence design. And Pennsylvania's Department of Health adopted a new requirement in its design and construction guidelines in 2001 mandating an Infection Control Risk Assessment (ICRA) be part of any hospital project.

HIPAA is a very pervasive and complicated act, which primarily impacts the administration of health insurance and patient information. As cases have arisen since its enactment, the interpretation of HIPAA's reach has extended into accommodating patient privacy and security of information through layout and circulation design. Patient check in and check out, which usually includes discussion of illness and insurance, must now be separated from the areas other patients inhabit.Physician and nurse communication with the patient must be private to such a high degree that physical separation is the best solution.

"The need for patient security has never been higher in hospitals at any time in my career," says Tim Powers, who runs Astorino's healthcare practice. "We spent extraordinary time in designing the Children's Hospital to keep back-of-house operations, which are less secure, from the front-of-house."

Infection control is another area that has affected all areas of hospital operation, but has a carry-over into construction because of the disruptive nature of a construction project. ICRA plans usually involve creating barriers between the project and adjacent operations, and can involve measures like air quality control and vibration control. While these sound innocuous, the actual implementation can require extreme measures, including construction of temporary full drywall partitions, negative air and Hepa filtration systems, full decontamination suits for workers, and the daily construction and disassembly of these measures for the life of the project.

As an example, selective demolition in a sensitive area can require hand carrying material in a sealed wheelbarrow in and out of a sealed area, wiping boots on a wet mat/dry mat system to remove dust, vacuuming off or removing worker's suits, and then reversing the entire process.

The impact of ICRA measures is obviously felt most in the amount of labor required to do each task. Coupled with the already difficult access and limited operations that hospital construction entails, ICRA measures have added dramatically to cost and schedule. While no published study seems to have surfaced yet identifying the ICRA premium, a study of hospital project costs before and after shows a marked increase, as much as $100 per square foot in certain facilities.

Another emerging factor requiring accommodation in hospital design is the marked increase in bariatric patients. As the incidence of obesity has increased in the population, so has the incidence rate of extreme obesity. "Bariatric patients are causing hospitals to accommodate much bigger patients," points out Scott Hazlett of Burt Hill. "It's no longer uncommon to have 500-pound patients, and hospitals are now trying to anticipate the needs of larger patients rather than rely on minimum standards."

Hazlett pointed out that standard items, like wall-mounted fixtures, are being re-thought in light of bariatric patients. "Wall-mounted toilets have been used for years, because they make for easier bathroom maintenance, but a wall-mounted toilet won't support a 500-pound patient."

Many of the emerging trends in healthcare fall under the category of patient-centered care, which is examined in detail later in this edition. Architects are finding this focus of care must be considered when planning projects. Accommodations for greater involvement of families in the decision-making process, and for inclusion of the families in the treatment and recovery areas have radically changed planning for patient flow. Hospital design now recognizes the stress placed on family during a loved one's stay and space is being allocated for family to function apart from the medical experience.

The most surprising result of patient-centered care is that single occupancy rooms are now viewed as the standard for design, and are being viewed as both cost-effective and attractive to patients.

While it's more likely than not that the factors influencing construction and design now will have changed course ten years hence, the business reality of healthcare construction and the demands of the aging Baby Boomers will cause healthcare providers to maintain an aggressively competitive posture for much longer. For architects, engineers and contractors serving the healthcare market, serving a hospital will mean adapting their business to react to how the hospital is serving its patients. BG

Excela Health's Center for Cardiovascular Medicine

Westmoreland County is Pennsylvania's largest county in terms of land area. Because of its proximity to both Pittsburgh and the Laurel Highlands, Westmoreland also has a diverse demographic make-up. In the western part of the county are some of Pittsburgh's fastest growing suburbs. Along the Allegheny and Monongahela rivers lie small, aging municipalities that formerly were mill towns. Some of the state's wealthiest families maintain residences in Ligonier and the southeastern resorts. And most of the land area in the county is still rural.

This diversity creates a wide variety of healthcare needs, without a concentration of population to make providing a broad spectrum of healthcare services economical. In 2004 three community hospitals in Westmoreland County, Latrobe Hospital, Frick Hospital and Westmoreland Regional, merged to form Excela Health.

One of the areas identified early on in the merger for capital expense was cardiac care. The three hospitals had varying degrees of cardiac medicine with diagnostic catheterizations at Latrobe Hospital, and diagnostic catheterizations and open-heart surgery at Westmoreland Hospital. Hundreds of new houses were being built along and around the Route 30 corridor between North Huntingdon and Latrobe, adding a significant volume of cardiac patients. The decision was made in 2005 to consolidate services and expand the largest of the cardiac facilities at Westmoreland Regional Hospital in Greensburg to create a new Center for Cardiovascular Medicine (CCVM).

"The choice was a strategic decision to serve the entire area," says Dan Hoffman of Excela Health, "We knew it would satisfy the physicians to consolidate, but we also wanted to bring all acute care interventions into one place, and add two cath labs (for a total of four), so that we could provide the best care to our patients."

Curtain wall and skylights bring the outside into the waiting room at Excela's CCVM.

The programming produced two clear goals, according to architect Scott Hazlett of Burt Hill, "First, was to provide comprehensive cardiovascular services in one location with a covered exterior entrance to make access as convenient as possible for the patients and their families; secondly, to consolidate these services into one location to improve staff efficiency and reduce the duplication of support services."

Like most projects, once programming was completed and approval given, the project was already behind schedule. Hoffman and the Excela staff decided to put together a construction team that could get working while the design was being finalized. In March 2006, Excela selected A. Martini & Co. as general contractor, and the major subcontractors, Limbach Co., H. L. Thomas & Co., and BECA Electric, were hired on to allow for design and budgeting to proceed on an accelerated schedule.

"A project like this couldn't be delivered in nine months if the whole team weren't in place and working together," said Dan Hoffman. "Of course we say the project started in March, but the architect only started working in October 2005, and drawings continued through the spring."

Jeff Feret, project manager for A. Martini, echoes Hoffman's observation. "We were on board in March, but we didn't have a finalized contract until May, and final construction drawings were done May 12, so the project felt like a six-month job to us." Feret also observed that the project was unusual in its total cooperation. "We had done other projects for Excela, but Dan Hoffman and his people had to work with us so closely, it was just incredible teamwork all the way along."

One of the bigger risks of the project was a bi-product of that close cooperation. In working closely with the owner and architect, Martini had to accurately interpret the intent of the documents because the cooperative atmosphere left no room for any claims of "I didn't know you wanted that." "Once the budget was set there was no room for changes" says Feret, "so if it wasn't inferred, we owned it. The only changes we had were owner driven changes."

Imaging suite at Excela's new Center for Cardiovascular Medicine (CCVM)

And there *were* some interesting challenges. The CCVM was being constructed in the former Radiation Oncology Department, and two, three-to-five feet thick concrete linear accelerator vaults had to be demolished or modified. Says Burt Hill's Hazlett, "The demolition of the heavily shielded concrete vaults was painfully slow and took approximately three months to remove piece by piece." After removing one of the vaults it was discovered that the space was at the juncture of four separate additions, each with a different structural system, and that several of the bearing walls required shoring or replaced. All this painstaking saw cutting and structural work was being done directly below the Emergency Room, which operated continuously throughout the project. Another interesting unforeseen condition was the discovery of an 8" sanitary line that actually ran 3" to 4" uphill, instead of the desired downward slope.

Excela Health	**CCVM Team**
Architect/Mechanical Engineer/Interiors	Burt Hill
Electrical Engineer	CJL Engineering
Structural Engineer	Barber & Hoffman
General Contractor	A. Martini & Co
Heating/Plumbing Contractor	Limbach Co
Sheet Metal Contractor	H. L. Thomas
Electrical Contractor	BECA Electric

Throughout these challenges, say Hoffman and Hazlett, the design and construction team worked to solve the problems with as much consideration for budget and schedule as was possible.

The facility, which was completed January 15, 2007, is a 19,180 square foot, $10 million state-of-the-art cardiovascular facility. The CCVM has treatment and diagnostic areas, as well as ample patient and physician support space.

Included in the treatment area of the project are three cardiac cath labs, one electrophysiology lab and a 12-bed pre and post-procedure holding suite with support spaces. Space to add a fifth cath lab was reserved on the floor for future development. Included in the diagnostic area are a new 64-slice CT scanner — the newest tool used for the visualization of the heart and the entire coronary tree; two nuclear scan rooms; an ultrasound room; an EKG room; three stress test rooms, and an existing MRI Room whose equipment was replaced during this project.

The finishes were selected to create an atmosphere that minimizes the stress of patients and family members. In place of the cold stark whites and blues normally associated with hospitals are warm earth and wood tones, soft greens, terra cotta, and creamy beige colors. A variety of carpets, ceramic tiles, and sheet vinyl with patterns were used on the floors to create interest and mark patient and staff zones. One of the added jewels that set this space apart is the full height glass curtain wall and vestibule at the entrance, and the use of illuminated ceiling murals with beautiful sky scenes in the "Atrium" space next to the entrance and in the 64-slice CT scan suite.

Excela is justifiably proud of the outcome. "We really involved the physicians and clinicians to get their input and judge the patients needs," says Dan Hoffman, "and the result is a patient-friendly flow throughout. It's kind of the jewel in the crown for the hospital. The clinical and customer functionality is superior."

The Center for Cardiovascular Medicine exists across the three Excela Health hospital campuses offering a variety of diagnostic and post-cardiac surgery services along with high quality emergency care for those experiencing the sudden onset of chest pain or heart distress. BG

Firm Profile

Rendering of the Wheeler Family Medical Center, now under construction at the Somerset Hospital campus.

Image Associates

It was probably inevitable that Craig Allen was going to have his own architectural firm. Allen and a school chum had done landscaping and handyman work around Mt. Lebanon since they were 12, making a profit for spending money throughout high school. Years later, when Forbes Health approached him, after only six years working, to become the architect for all their work, Allen saw it as the natural next step.

All he had to do next was convince his soon-to-be partner, Tom Teti, that it was *his* next natural step. "I ran into Tom at a store in town and told him he really needed to make the move. He was in the process of buying a home and was fairly newly married so he thought I was crazy." Allen says he knew self-employment would add even more stress to Teti's life, but he persisted. "I said that the opportunity was too good to pass up, even if the timing was bad, and kept after him until I talked him into it."

The partnership was actually a pretty natural fit. Both Allen and Teti are Kent State University architectural grads, both in 1980. Both men lived in Mt. Lebanon, and both had spent the first part of their careers working for Pittsburgh firms with strong healthcare practices, Allen with what is now Valentour English Bodnar & Howell and Teti with IKM.

Image Associates Craig Allen and Tom Teti.

Allen sees his time with VEBH as integral to his eventual leaving. The early 1980's were painful times for architects (as well as everybody else in the industry). As VEBH shed architects, Allen had the opportunity to take on more responsibility at a younger age than he might have otherwise. Allen also credits the culture at his old firm. "Lou Valentour was a great managing partner, and I really have to credit Jim Howell for pushing me," says Allen. "There were a number of situations that I wouldn't have expected to be handling but Jim was always saying 'Craig, you can take care of that'."

Image Associates was incorporated on July 1, 1986 with a backlog of work that allowed the two partners to have plenty to do right away. The firm was busy doing a number of Forbes Health projects and the interaction with the hospital's physicians began to lead to work with doctor's groups. The word-of-mouth spread their name to several smaller hospitals in outlying areas and helped fuel Image's growth throughout the rest of the 1980's.

After landing work at hospital systems in Waynesburg, Lock Haven, Somerset and Sewickley, Image Associates added to staff until reaching a peak of 15 people in 1991. At that point both Teti and Allen realized their firm wasn't going in the direction they wanted. Both men had project architect's viewpoints about their work, and found they could no longer linger in the details of their projects. "At 15 people we had to spend too much time selling work instead of doing architecture," noted Allen.

The real estate and construction recession of the early 1990's allowed Image Associates to get smaller as their clients did less work. The downsizing wasn't without pain, but Image was able to get to its ideal size without leaving any clients in the lurch.

When the healthcare market began to push projects into the pipeline again Image was well equipped to serve their customers. The market in Western PA was not going to support big hospital projects, but rather the healthcare market was going to require a lot of smaller renovation and medical office projects. This became particularly true when one of their clients, University of Pittsburgh Medical Center, began acquiring a number of the suburban independent hospitals in the late 1990's.

Image Associates' size and attitude matched up well to the kinds of projects that were being developed. "We've both dedicated so much of our careers to healthcare that we're both pretty good at it," says Allen candidly. "We have the experience at the facilities that allows us to be thorough in our analysis, to identify problems that we've encountered there before. We can turn a job around quickly and produce plans that contractors like to build from."

Teti sees their size as a factor as well. "We've been bigger and we like having five people better," he says. "My clients meet with me on their work, not just a project architect, so when they have a problem I can be the one to fix it."

That hands-on problem-solving approach will come in handy for quite a while to come. The capital plans of UPMC have required the services of the bigger healthcare architects in the region to design and manage the headline projects like the new Children's Hospital and the Passavant Hospital expansion, but the reconfiguration of the Oakland spaces and the re-use of the existing Children's facility will likely' create hundreds of smaller but interesting projects. That scenario suits Craig Allen just fine. "Our clients know that we don't want the $20 million job," he says.

As Image Associates enters its third decade in business, the outlook for the healthcare market is stronger than it has been at any time in their existence. The partners understand how rare it is for a two-person firm to start and last for nearly an entire working career. "I've always felt like I had a personal and a professional marriage," says Tom Teti. "I'm in my 23rd year of marriage with my wife, and my 22nd year as partner in Image." Teti believes he knows the secret to success in both. "I try never to be in the same place for too long with either of my partners!"

PRODUCING THE HOSPITAL RENOVATION: A PROJECT IN THREE ACTS

By Robert Blumling

Act 1 – Setting the Stage

When the Scottish poet, Robert Burns, made his famous observation on the quixotic nature of the plans of mice and men, and how they often go awry, he might have been working at the time as the construction manager on an ancient hospital renovation project. Although every construction project is unique in its design and production, and certainly each is uniquely important to the owners and occupants of the structures, hospital renovation projects present challenges very different from other types of construction. Hospital renovations and new construction have maintained a consistently strong position in recent years in the construction sector economy; however, these structures are among the most complex of building construction types.

There are many design, contractual and operational issues that are unique to hospitals. For example, safety controls on a construction project have always been of paramount concern on any job. Performing construction renovation work on occupied buildings that must remain in operation during the construction project can present nightmarish logistics if the processes are not well coordinated and planned in advance. With a hospital renovation, however, it is not only the safety of the workers that must be considered, but also the safety of the building occupants and patients. Everyone involved in a hospital renovation project must be exceptionally mindful of the unique issues that relate to patient safety and care.

During the planning stage of a hospital renovation project, the design professionals and the contract drafters should reference specific published industry guidelines as to the construction criteria for this unique project. Hospitals are themselves a microcosm metropolis, with different areas providing a wide range of functions. They include everything from administrative, financial and insurance service offices to surgically clean operating rooms and emergency rooms. They combine food service, housekeeping and retail functions. There are also the highly specialized diagnostic and clinical laboratories, and the equipment located within those rooms that requires special utility considerations.

The control of air flow and sound attenuation are also two items that must be precisely addressed in the design and contract documents for the project. Protecting health care workers and patients from the detritus and cacophony of the construction process is a goal that must be regarded as highly as any life-safety issues on a construction project. Shielding construction workers from the dust and sound of a construction project always raises issues concerning procedures and controls to be implemented and enforced on the project; however, when one combines those typical project issues with a renovation project in a hospital containing patients in various stages of treatment and recovery, it is easy to understand the heightened concerns with sound disturbance and dust release. Rather than rely upon form documents or references that all work must be "performed according to applicable codes," the preferred approach is to manuscript the contract documents for this unique project. The contract documents should contain explicit references to the applicable codes, standards and published industry guidelines, including which updates or latest edition will apply. Thus, contract drafters will avoid gaps that might create confusion about the project standards.

In addition to the human treatment concerns, there are also issues concerning the coordination of equipment and systems. Exterior and interior airflow systems must function effectively and safely not only after the construction project is complete, but also during the construction process itself so that the hospital can maintain its primary function of patient care. Often, hospital equipment requires unique electrical and plumbing utilities. The location of the equipment and the mobility of the equipment are also matters to be considered. The security and communications systems within a hospital are also vastly different and more complicated than those found within a basic office structure.

Act 2 – Production Time

The usual manner in which construction planning and operational professionals address the aforementioned difficulties regarding a hospital renovation is through the production and scheduling technique of phasing — or sequencing — the renovation work. This technique involves a well-thought plan for staging work in various areas of the hospital in an orderly sequence so as to concentrate work efforts in one sector at a time, thus minimizing daily disruptions to the health care providers' and patients' routines.

From a legal prospective, it is the project owner's obligation to allow access to work areas for the various contractors. The hospital owner can, however, contractually delegate those obligations to the general contractor or to a construction manager. Again, it is prudent to expressly state the delegation of the scheduling, coordination and sequencing responsibilities in the contract documents. Form contracts do not specifically address these unique issues; they may be used as templates for the project documents, but they must be carefully customized for the hospital renovation job.

Because many hospitals are very old buildings, the renovation project can encounter design planning problems that arise from antiquity. It is possible that numerous renovations occurred in the hospital over decades, and as a result no one possesses a comprehensive set of as-built plans. The prudent hospital owner will specifically state in the design professional's contract what services the design professional is to provide relative to reviewing existing drawings, conducting new surveys or even performing invasive testing in order to create the plans for the new renovation job.

Another prevalent problem that arises in hospital renovation is the presence of asbestos — sometimes predicted and identified in the contract documents — but often unforeseen and hidden. Due to the age of many hospital buildings, the prior use of asbestos-containing building materials can create both safety and operation impediments during the project.

Another factor that plays an important role in the sequencing of the renovation work is the timing of delivery of specialized equipment. Oftentimes, the hospital owner will undertake the purchasing and delivery coordination of specialized equipment as its responsibility, and not delegate those responsibilities to the contractor.

When any of these operational issues go awry — whether due to unavailability of a sector for a planned sequence; the discovery of unforeseen asbestos requiring abatement; or the failure of specialized equipment to arrive at the scheduled delivery time — the entire production can reach a standstill. The original phasing of all the construction is now inverted. Coordinating the project completion can become daunting. Imagine if you will, that after having watched the first act of a play, the cast and producer were forced to present the third act to the audience before they had seen the second act. Although there would still be a lot of activity occurring on the stage, it would not be cohesive and certainly would not produce praiseworthy reviews.

If any of these events occur on a hospital renovation project, the players involved should immediately set out to identify the impediments to the work completion and collectively plan how best to recover the now-abandoned sequencing and efficient productivity. Regular meetings with the issuance of detailed minutes and concurrence in those minutes by all involved is one operational tool. Another is for all concerned to make certain that the paperwork on the project and the fieldwork on the project proceed concurrently. Schedules must be updated with as much detail as possible, including manpower loading. Change orders or other amendments to the contract documents need to flow alongside the work production. Although all of the players involved should certainly be mindful of their own time and cost issues, a consensus team approach to coordinating the work is the only approach that will lead to the best possible outcome for all concerned.

Act 3 – Curtain Call

Whether the hospital renovation production proceeded seamlessly — or whether it was interrupted by the ex machina influences of re-sequencing and unforeseen asbestos abatement — the project still needs to be closed in a comprehensive and thorough fashion. Interim and final area turnovers need to be contractually closed on an ongoing basis. This requires coordination of inspections by the appropriate regulatory agencies; commissioning of equipment; and balancing and testing of systems. Once again, the contract documents should clearly identify the parties responsible for performing and coordinating each of these activities. Issues of final payments, releases and warranty obligations must be arranged.

Well-drafted contract documents should provide the exact procedures for identifying any unresolved issues at the end of the project and the procedures to be invoked to resolve them. The processes should be uniform for everyone involved in the project so that everyone who has an interest in any unresolved issues can present themselves in a streamlined proceeding.

The fact that disputed items might remain at the close of the project does not render the project itself a failure. So long as the parties identify and contractually agree upon the manner to resolve them, they can channel any disputes through an orderly resolution process.

If one is mindful of all of the foregoing items during the planning and the construction phases of the hospital renovation project, then even if the plans go somewhat awry, the project need not irreversibly deviate from the ultimate goals (thus avoiding the prediction of the poet Mr. Burns); rather, the hospital renovation project can still result in a work that more resembles another historical author's sentiments in the production entitled "All's Well That Ends Well." BG

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Watch Out! Good Times Are Here for The Sureties

"Things are going great right now. It's just about time for us to start doing something stupid!" That tongue-in-cheek remark from Barb Henry of Westfield Insurance sums up the feelings of almost everyone in the surety business these days.

Most veterans of this relatively small sector of the insurance industry will tell you that they have been here before. In a cyclical business serving a cyclical industry like construction, it is inevitable that reactions and overreactions will follow the highs and lows of the market. The surety business, which writes the bonds that guarantee performance and payment for the construction industry, is reaching a 'perfect storm' scenario that real estate owners and developers may want to pay attention to.

"The 2006 results were spectacular," says Bob McCarthy, a downtown surety agent. "In fact, the 2006 results for the insurance industry in general were spectacular." McCarthy and others point to the resurgence of the insurance industry as the leading reason for the impending 'stupidity.'

Jim Bly heads the construction business in the Mid-Atlantic for Marsh, the largest insurance brokerage in the U. S. "I think this is the third cycle I've seen in my career," Bly says, "We're about at the end of a pattern of tightening surety and that has always produced good results. What usually follows is that the industry forgets its underwriting discipline to get market share, and we take more risks." After the increased risks follow the inevitable increased losses.

It might legitimately be asked why such a pattern can't be avoided, especially if so many veterans of the business can see it happening. Part of the problem is the structure of how the surety business is conducted. Large insurance companies, who sell their bonds into the local market through agents and brokers, underwrite surety bonds. Agents and brokers represent the insurance providers independently, although some agents have contracts with insurers; however, the amount of servicing required creates a dynamic where the agents and brokers see the insured, the contractors, as their customers.

This relationship creates a dichotomy of interest for the insurance companies. The local broker or agent is their best source of information about conditions and contractors, and both the agent and the insurance company benefit from growth in market share. So if the insurance company wants to grow their business they can incent the local sales force to write more bonds.

Whatever increased commission and revenue come from increased share however, are more than offset by the losses that may result from taking on too much risky business, so the insurance companies can manage that problem by imposing tighter restrictions on the business that the agents and brokers can write.

While you'd think that the companies would look at the agents and brokers as conduits for judging how much they should tighten or loosen the reins, the reality isn't ever that simple. "Our job is supposed to be to qualify the marketplace but we are as susceptible to business pressures as any other group," sighs Bob McCarthy.

A look at the conditions of the past five or six years can well illustrate Bob McCarthy's lament.

In the late 1990's the insurance industry was in good shape, and surety losses were relatively low. By mid-2002, however, the surety and insurance business had endured enormous losses from Enron's collapse, the 9/11 attacks and the recession that followed. To remedy the situation, insurers clamped down on all the variables in the surety equation: capacity was cut, rates went up, terms became punitive, and contractors were required to personally indemnify the bonds that were written. In addition, the local brokers and agents were expected to increase financial review of their clients.

"The norm in the '90's was an annual review of a client's financial situation and their general business outlook," notes Marsh's Bly. "After 2001, the frequency went to quarterly, and monthly if a client was having problems (and many were then), plus we were asked to get much more detailed reporting than in the past."

The increased oversight has increased the effort that an agent puts into getting the same amount of business, which has affected both sides of the table. "Underwriters ask a lot more questions a lot more often," says Jay Black, Managing Partner of Seubert & Associates, a local insurance agent. "Contractors are losing tolerance for the scrutiny, and some are saying the heck with it. It's also caused agents who were just dabbling in bonds to get out."

Greater underwriting discipline did lead to a reduction in losses by 2004. The surety business was profitable in 2005 as well, even with the losses that Hurricanes Rita and Katrina created. And 2006's performance was even better. The chart below illustrates how the surety loss ratios were reduced during the first half of the decade.

Surety losses have been steadily declining since the peak of 2001 (Source Surety Association of America)

Now, back to the gathering perfect storm. Because 2005 and 2006 were both good years for commercial construction nationally, there has been increased pressure for raising bonding limits; better financial results have reduced the frequency and intensity of reviews; and insurance companies are receptive to more relaxed terms and personal indemnity exceptions. In our region, most contractors' backlogs have steadily increased, precipitating the need for higher bonding limits.

At the same time that commercial construction conditions were improving, the larger insurance industry found itself with very few losses in 2006 compared to the natural disasters of 2005, and a climate which triggered lower premiums for property/casualty and general liability insurance. "Commercial insurance markets are softening nationally," says Kevin Palermo, Regional Sales Manager for Sky Insurance. "We forecast 8-10% reduction in premium rates, but our expectations for revenue and our growth goals overall haven't changed."

Facing reduced premium revenue (some experts forecast as much as 15% less) insurance executives are forced to look at other businesses to pick up revenue and market share. One of those lines of insurance serving a healthy industry is surety bonding.

The short-term forecast for bonding is for insurance companies to look at the surging construction market as a source for additional income, and further loosen the reins on their risk management. At the same time, of course, the pressure to write more business will be applied to the agents and brokers. Of course, the brokers and agents are also the ones who know that the booming economy should signal caution.

Often, the precursor to increased losses actually is a boom in the economy. During a boom, contractors' financials look good. More and more work is available, and it is easy to carry unprofitable jobs with payments from new projects. Sureties are susceptible to the belief that a boom will continue indefinitely and provide bonding credit beyond what their normal underwriting standards might suggest is prudent.

Developers in our region have another variable to contemplate in addition to analyzing the schizophrenic surety conditions: the amended mechanics lien law. One of the best protections against a lien from the second- and third-tier participants is to have the project bonded for payment. While the changes in law haven't created a noticeable increase in demand in the first six months since the amendments took affect, it's very likely that the bonding of subcontractors will increase measurably over the next year.

The bonding of subcontractors is a more recent phenomenon that has resulted from the surety strategy of sharing the risk of default beyond the general contractor. While some general contractors have long required subcontractor bonding to optimize their own bonding status and rates, most subcontractors have not historically been required to provide performance bonds. As such, most are less prepared to provide the financial reporting that sureties have been requiring; moreover, the nature of subcontractor payments often leaves subs with more debt, albeit short-term, than sureties find appealing.

Over the past half-decade performance bonding has not been a predictable market. As the industry heads into what will be a pivotal year or two, it will be a good practice to stay abreast of the changes in the surety climate. Taking for granted that the contractors or subcontractors you are accustomed to working have the same bonding status could be a mistaken presumption. BG

MBE/WBE Company Spotlight

Butler Landscaping

Roy Butler, owner of Butler Landscaping.

Roy Butler started his landscaping business in 1984 after spending a decade in the trenches of the construction industry. That's a pretty common story. What's not common is that his experience was in electrical contracting, not landscaping.

"I worked for Sargent Electric when cable came to Pittsburgh and was involved in the Warner Cable installation," says Butler. "That led me to work for Adelphia for about six years. Doing service calls, I kept seeing the same landscaper from Mt. Lebanon and he started sharing information about that business. He encouraged me to go out on my own, and I thought I could do better on my own."

Butler had learned a bit about lawn maintenance and landscaping from his father, who worked in that business. He decided to take some courses at CCAC, and began logging a lot of time at the Carnegie Library teaching himself about agronomy and horticulture. "I started handing out flyers for lawn work during breaks at sites when I was working for Adelphia," he says. "That summer we got 35 customers from the flyers. I bought a pick-up truck, my Dad and a couple of other guys did the day work, and I worked in the evenings."

After that he got involved with community groups and got noticed, even getting a feature written about him in *Mt. Lebanon Magazine*. Inevitably, he began to think about doing commercial projects to help him grow faster. Butler Landscaping's status as a minority-owned business led to opportunities to compete for bigger, non-residential work. Roy Butler was determined not to blow those chances.

"My motivation was strong to do the best, to do what the general contractor needed done well, because I knew that I would be getting attention because I was an MBE. I wanted the customer to look at our work no differently than any other landscaper." Butler looked at projects as learning opportunities as well as revenue. "I've worked with some great landscape designers who really taught me a lot. I kept taking classes and listening to the landscape architects to get better."

Like most growing businesses, Butler Landscaping found getting the big project experience to be one of the toughest hills to climb. Even after getting that big break, doing the landscape contract for Heinz Field, there was pressure to execute. Butler remembers, "I'm sure our competitors were saying that the job was too big for us to handle, but we had worked in the past with Chick Peiffer from Mascaro and they stuck with us. I was determined to push the work." He says, "The phasing of the job allowed us to manage it ourselves. It was like eating a pie. You can't eat a whole pie at once, but if you have a quarter of it for four days it's not such a big pie."

Butler Landscaping has done the work for a number of high profile jobs now, and is the landscape contractor for the Cultural Trust's work in the theater district. Roy Butler still sees opportunities the way he did when he was starting out. "I feel our forte is how we execute the work," he says, "It's important to me that we get the work done right without the contractor ever feeling he has to baby-sit us."

Company Facts

Butler Landscaping
1242 Grove Road
Pittsburgh PA 15234
412-884-1801
btlscps01@comcast.net
Established 1984
Numbers of employees: 16

Past Projects:
Heinz Field • Mascaro/Hunt Joint Venture • South Side Works Office/Retail • P. J. Dick Inc. • South Side Works Theater/Retail • Jendoco Construction • Hard Rock Café• Forest City Development • Crawford Square Phases 1-3 • McCormick Baron • Theater Square/Encore on 7th • Mascaro Construction

Finding the Right Talent Isn't So Simple Anymore

Ever get the feeling that you'll never find that 'right person' for the job opening you have? Don't get paranoid. You are not the only one feeling that way.

"Trying to find mid-level talent, project managers or estimators with ten years experience, is almost impossible," says Tom Callahan, Partner with Crown Advisors, a national search firm based in Pittsburgh. "That kind of talent does not exist. If we are looking for mid-level talent for one of our clients, it's more of a favor than anything else because it's so hard to deliver."

Callahan is but one recruiting expert who sees a void in the available candidates of a certain age-range. Recruiters nationally point to an industry-wide failure to promote construction during much of the 1980's and 1990's. "The industry didn't attract enough entry-level people then and now you can see that 'bubble' rising through the ranks as time goes by," he says.

Of course the main problem facing Western PA contractors is that the work is plentiful, and should be for another few years. And having a lot of work and not enough people to build it is almost as bad as not having enough work. In fact, without adequate management, more work can mean more problems and less profit.

In recent months a number of experienced project managers have left long-term positions to answer the recruiter's call. Companies that need to add critical, experienced people have to be as creative in recruiting as in their construction. As you might imagine, salaries are going up, but so are the extra perks and intangibles that can make a difference.

Mascaro Construction is one local general contractor who is on a very successful run, securing several projects in the $100 million ballpark in places like Harrisburg, Buffalo and Frederick, MD, as well as plenty of work in Pittsburgh. Mascaro recently hired a number of people, including three senior managers and estimators. One of the surprises was that part of the success came from a help-wanted ad. "We had so many needs that we figured it couldn't hurt to run an ad, along with the other methods we were using," says Mike Mascaro, Vice President at the firm. "We actually received dozens of resumes, including some very experienced people."

The advertisement was less of a risk, feels Mascaro, because of the extra steps the company takes after getting a resume. "We have a particular culture here, and one of the best ways to finding long-term employees is making sure candidates fit into that culture." Mascaro Construction's approach includes more than standard interviewing, although Mike Mascaro didn't want to be specific about the extra effort. "We all have to keep our secrets to ourselves," laughs Mascaro, emphasizing that the effort to differentiate doesn't stop with the hiring. "Our belief is that the workplace has to offer opportunities for our people to grow personally, as well as professionally, if we're going to make a difference."

More and more, firms are finding that they should be recruiting full time, not just when they have an opening.

"We've done almost everything to recruit in the past-ads in the paper, the Builders Exchange, resumes from the MBA, workpittsburgh.com-but it's hard to find a good fit when you need someone fast," says Ray Volpatt Jr. of Volpatt Construction. "I have a friend who does recruiting professionally, and now I just keep him on notice to let me know anytime he finds someone who I'd be interested in hiring." Volpatt's approach is becoming more commonplace in Western PA, where the talent pool is becoming shorter. Tom Callahan sees another change local employers should embrace. "When we handle work for Pittsburgh employers, and employees, they have more preconceived notions about their prospects. I know everybody knows everybody here but to be successful both sides should be more open-minded about the opportunities." Those prejudices often get in the way of a good hire.

One of the prejudices that is common in the marketplace is that the good people are being held closely by their employers right now. While there is some truth to that, the reality is that employers always protect good people to some degree, and good people are also always changing jobs. Even now, with strong commercial construction activity, a number of high-profile professionals have switched companies.

And **having a lot of work and not enough people to build it** is almost as bad as not having enough work.

All Tek Staffing is a regional recruiter that has offered a creative solution to combat the "no good people" fear. To limit the fear of committing, and reducing the impact of a high one-time recruiting fee, All Tek offers candidates who are interested in working on short term consulting agreement terms. The arrangement, which usually runs for six months, allows the employer to test the candidate in real life situations, and the candidate is able to judge how he or she will fit into the culture of the new workplace.

Rycon Construction is one local contractor who's tried All Tek's "six month trial" approach with a few openings. Todd Dominick, President of Rycon, says he's not yet able to tell if this is a better approach than traditional recruiting methods, "I don't think I can say if it's a more foolproof way to recruit, but then again, there is no way to recruit successfully all the time."

The market for talent isn't any better on the design side of the table. Recruiting for experienced architects in this region has been very difficult for a year or more, according to Nikki Stewart, Human Resources Director for Astorino, one of the region's biggest architectural/engineering firms. "We don't have trouble attracting young architects, recent grads, but there are not that many experienced architects who are looking," says Stewart. "There is a shortage of architects in the 30+ range. We see less candidates like that than very experienced architects." Stewart feels that demographic group is probably seeing more risk in leaving than when they were younger, and she says, "With the firms as busy as they are, if a thirty something is interested in leaving it's likely they will get a counteroffer to get them to stay." Ken Doyno is a partner at Rohschild Doyno Architects. He has a similar view on job seekers. "We don't get many resumes from people just looking. I take that to mean that most architects are happy where they are, which is a good thing." Doyno says they more often than not get a resume from someone when that person has a specific interest in joining Rothschild Doyno. "It's been amazing how many times we get interest from someone who visits our website. Candidates say they used it to get a flavor of what the firm is like." Rothschild Doyno's website includes personal profiles of all the firm's employees. Doyno believes more and more architects are using website research to judge their prospective employers' culture.

While matching cultures and judging personal compatibility are essential to long-term work relationships, many still feel that's a luxury that the market isn't affording. The widespread shortage in management talent at what should be the peak career years, 35 to 50 years old, doesn't have an overnight fix.

One solution that is gaining momentum is the ACE Mentor program. Founded in 1994, ACE matches architects, contractors and engineers with local high school students to educate and interest them in design/construction careers. Backed by industry heavyweights like the AGC and the AIA, ACE has local chapters in 18 states. A chapter in Pittsburgh is now being formed, and should be actively mentoring students in the 2007-2008 school year.

Tom Callahan still sees caution for the near term. "I think ACE Mentoring is the best solution to the problem of career interest, but you have to remember that the fruits of that program won't be born for a decade or more." Until then, all sides seem to agree that keeping employees fulfilled and attracting out-of-town talent are the best ways to keep up with the talent needs in Western PA. BG

Patient-Centered Care Is Bringing Real Change to Hospital Design

Patient-centered care sounds a lot like one of those business school catch phrases, like'customer-driven company' or 'total quality management', which had good intentions but ended up making more consultants money than anything else. Unlike those kinds of buzzwords, though, patient-centered care is interwoven with other significant healthcare business issues, and it's starting to really manifest itself in how facilities are put together.

At its root, patient-centered care means shifting the focus of healthcare from the doctor or hospital or insurer to the patient. That sounds like something that should have happened all along, but what is driving that now is that healthcare providers are discovering that involving the patient and the family in the decisions, and accommodating the family during the process, can hasten healing and shorten stays. Those results will get the insurers' attention as well.

Focusing on the patient changes the nature of the facility radically. Patient areas become excluded from any functions that don't involve treatment or recovery. That means new circulation patterns and flow. Patient's families are expected to stay with the patient more, and be involved in decisions, and need places to function away from the medical environment. Patient-centered care means stacking a facility to maximize communication and access to clinical staff, while minimizing stress, noise, distractions and access to non-essential staff.

Add to this business trend the requirements for protecting patient information and privacy that HIPAA mandates, and the measures taken for infection control, and you have a new mindset for designing medical buildings.

The easiest places to examine the impact of this trend are in new hospital construction. In Western PA there are two major new building projects, the Veteran's Hospital CARES program and the new Children's Hospital. Conveniently enough, the same firm is the lead architect for both. "The big difference in Children's is the functionality of the building," says Tim Powers of Astorino, architects for Children's and the VA. "We examined all the circulation tracts and looked for the places where they overlapped. Where the circulation patterns touched were places where patients would be in contact with back of the house operations, and we were asked to design so that those contacts were minimized."

That design imperative obviously influenced space planning and logistics, but it extended even to vertical circulation. "There are more than 25 elevators in the new hospital and the goal was to make them unique to their purpose," explained Powers. "Maintenance elevators don't connect with patient areas, and patients don't have their trips interrupted by administrators getting on and off."

At the VA the challenge was to get to know the veteran as a client. Astorino found early on that there were very different mindsets among the different eras of veterans. "When you're around the World War II vets you see that they still have pride in their accomplishments; they still wear military hats," says Powers. "The Vietnam vets still seem kind of ticked off by their experience, and the lack of support they received; and the Iraq veterans are more interested in plugging back into their old lives."

Astorino's experience in learning the veteran's mindset drove them to a very different design focus than their Children's Hospital project. "We wanted to build a monument to honor the soldiers, not just a hospital," said Tim Powers.

John Radelet sees the patient focus of the VA driving his project in a different direction. His firm, Radelet McCarthy Architects is designing a $6 million, 55-bed domiciliary building at the Butler Veterans Hospital. "The VA is scrambling to deal with a very different vet now," says Radelet. "Suddenly there are women among the wounded, and that requires separation that wasn't needed before. The influx of young veterans creates a need to segregate the older vets, who have very different problems, from the Iraq veterans."

That the Veteran's Administration is moving away from the hulking institutions that offered one facility for all eras of veterans is an expression of their new focus on the patient.

One of the results of this emphasis on patient-centered care that dovetails with the solution to a number of other problems is the move toward single occupant rooms. Once considered a luxury, single patient rooms were put forth as the minimum standard for hospitals in the *2006 Guidelines for Design and Construction of Health Care Facilities*, the bible for healthcare designers.

Craig Allen, partner in Image Associates, a Mt. Lebanon healthcare architect, sees single patient rooms as a permanent standard. "I can't see any new construction being built that isn't single patient," he says. "There's a whole host of issues-privacy, customer satisfaction, ICRA-that single occupancy solves."

At Children's Hospital single patient rooms allow for other clinical concerns to be addressed. Children's medicine relies heavily on family support, and there is common belief that family support hastens healing and recovery. Single patient rooms allow designers to accommodate overnight stays by parents in the child's room, and the privacy invites better communication with caregivers, and more family involvement with decision-making.

In anticipation of the *2006 Guidelines* recommendation, a number of studies were commissioned to study the cost impact of constructing single patient facilities. It was assumed that the additional floor space, and in particular, the additional mechanical and electrical work involved would add to the first cost. It was also expected that the single patient room would have cost benefits associated with reduced patient transfers, reduced infections, and increased patient satisfaction.

The results overwhelmingly showed that the reduced operating costs offset the increased first cost, often inside of three years, and that the related effects were extremely beneficial.

Studies were done by Mahlum Architects, and cost consultant Davis Landgon Adamson on ten different nursing unit floor plans in ten different hospitals. Using several methods of analysis, including quantity takeoff, the results showed that single patient rooms cost between $153,000 and $182,440 to build, and double patient rooms cost between $122,550 and $134,000. The variance between the two was as little as 20% and as high as 50%.

During the operating cost analysis, a number of factors that improved efficiency and revenue were discovered to be much better in single occupant rooms. The major findings were that patients in single rooms had reduced length of stay, had reduced incidence of nocosomial infections and hospital-acquired diarrhea, and reduced medication errors and costs. Single patient rooms obviously require no transfers of second patients, and therefore have no incidence of transfer-related infections. Perhaps the best result was that the improvement in patient satisfaction led to significantly higher occupancy rates, and better revenue per bed.

It's not often when the business and clinical side of the healthcare industry are happy about the same trend, but single-patient rooms appear to be a win-win.

The patient-centered care movement has also created spaces that are designed only to help the family deal with the illness, again emphasizing the belief that supportive family aids recovery. This opportunity seems to have especially energized the architects designing medical facilities.

When interviewed about the Excela Health Cardiovascular project, Burt Hill's Scott Hazlett repeatedly emphasized the design elements, from color choices to space design, that were aimed at reducing the stress and supporting the families of patients. His comments about the waiting room atrium "bringing the natural beauty inside" sound positively residential.

At the Children's Hospital, real care has been put into designing sibling spaces that will be distracting to patient's brothers and sisters. A business center is designed for parents "to disengage from the medical experience," as Tim Powers put it, and get back to a normal life for even a short time.

Quicker, better, faster-you pick the two you want. That's been the mantra of intense competition. Patient-centered medicine seems to provide care that accomplishes all three. BG

Business Golf

An offer of a round of golf, especially at a great course, can be one of those icebreakers that melts the frostiness of a customer or prospect relationship. Now that summer is here, there will be plenty of opportunities to get those rare five hours of face time that a golf outing provides.

Whether the outing is a private foursome arranged at a local course or a double-loaded, shotgun start charity event you'll want to have your 'A' game working, both on and off the course. Driving and putting are only part of a good day's golf. To get the most out of a day of business golf there are a lot of little things that make the difference.

First things first: learn the game. One of the best and easiest ways to get very familiar with how the game is to be played is to go to the USGA website, www.usga.org. The USGA maintains pages for rules and etiquette, including a link to the complete Rules Book and current rulings.

If you're a beginning player you should spend a little time practicing before playing. It also pays off to spend some time learning about the do's and don't's of customer golf. Golf is a good way to get to know people and build successful business relationships, whether strengthening a current one or networking into a new one. Following are five rules to ensure the game will be above par for everyone.

Know Your Game

You may be surprised to find out that the average male golfer scores about 100 and the female 120. Keep in mind how the high handicapper gets those high scores. Big score holes and lost balls take time, and many poor golfers are infrequent golfers, so USGA rules and golf etiquette might be foreign to that golfer. If you are hosting an outing try and do the little things that can keep the game moving: concede a five-footer to the guest that's on his way to a 125, or offer a free drop to the guest who insists on looking for every ball in thick grass next to the out-of-bounds markers.

This is the rule that pertains to gambling. If you can avoid betting between strangers in a business foursome, do so. If the participants insist upon a little something to "keep things interesting" try to steer the bets towards games that are fair for all. The last thing you want to do is have your hot prospect owing somebody money at day's end.

Know Your Foursome

Think about the personalities as well as the games of your potential guests. People do strange things on the course, and it's best to prepare for the worst behavior. If you're bringing a real straight-laced customer out, you should probably not invite Bob from Accounting, who is usually into his third beer by the second hole. Perfectly normal and sane humans who stop at yellow lights can turn into golfers that trim their score a little, use the foot wedge regularly, toss a club or two and scream at the caddie when they miss an eight-footer for bogey. Opposites may attract in love, but it's best not to try that on the golf course.

"I think one of the best things you can do is to bring customers to an invitational, or some other outing where there's a team contest," says Frank Poerio Jr., President of Poerio Inc. "When you're competing together on the same side it seems to build good camaraderie, and helps build better relationships, which is the reason you go golfing in the first place."

Know Your Course

If you are the host, choose a golf course that will be fun for your guests to play. If your guest is of the opposite sex, be sure to make locker arrangements for him or her. Inform your guests of the course dress code. If you are the guest, ask about the dress policy in advance and let your host know your golfing ability. Getting that round at Oakmont might be a dream come true, but if you don't have much of a short game, it's going to be a long afternoon for everyone.

Know Golf Etiquette

This is different from the golf rules. Be ready to play. Don't plumb bob the 30-foot bogey putt. Never give or ask for advice on the course. Keep the excuses and complaints to yourself. If the group ahead is slowing you down, tell another anecdote instead of hitting your lay up at their feet. And put the cell phone in the locker before you tee off. If you're that busy, don't go golfing!

Know When to Talk Business

Never discuss business on the golf course unless your client brings it up. Keep the discussion light, saving business for the 19th hole. Always allow time for a beverage and snack after a round of golf. This is the time to discuss business and make your case for whatever project you are working on.

Summer is also the time when most associations and charitable organizations hold their fund-raising annual events. These events are great networking opportunities (often that's the purpose of the event), but there are social potholes to be avoided.

One of the realities you should accept is that your customers will ask you to contribute to their event. It may be as small as providing a skill prize, sponsoring a foursome, or being a major contributor. Some of the bigger events can offer you the 'opportunity' to contribute $25,000 or more to a customer's outing. As these events have grown, companies have developed strategies for involvement.

"It's a lot more work to put on an outing than to put together a foursome in one, and it can be tough to digest during a slow year, but if you have a client that is a non-profit or really invests heavily in a particular charity, it's important to that relationship to help as much as you can," says John R. Deklewa of John Deklewa & Sons. "We've sponsored a fund-raising outing for the Beaver Valley YMCA for almost a decade, and it's gratifying to see how far the money goes. Our annual outing pays for more than 10,000 lunches for kids who attend the Y's summer camps. Unfortunately for many, this is their most significant meal of the day. All the time and effort pays off when you realize the impact on the local community."

Organizations have found that the multiple charity outings have impacted their networking events as well. Del Walker, Executive Director of Pittsburgh Builders Exchange (PBE), has seen the increased pressure from charitable outings change his whole summer calendar. "We used to hold five country club events every year that were pretty pricey, and included a formal dinner and drinks," says Walker. "The whole philosophy has changed to having the events be more for the rank-and-file employee, the office or field staff. That has changed our event to be more affordable and be done right after the round." PBE's calendar now features two outings at good semi-public courses that include golf, a couple of drinks, and an early evening.

Big outings are popular with country clubs because they provide business on a day the club was traditionally closed. They can also mean a lot of work with short staff. If you are planning one of these, give the club as much help as possible if you want things to go smoothly.

Set firm dates and get firm counts of golfers to the club event planner early. Let the club know if you have skill prizes or hole signs that need installation. The less you need done at the last minute, the better.

Whether it's a charity benefit outing or a corporate event it's important to remember that the clubs aren't getting rich on your outing, so be as sensitive as possible not to infringe upon other revenue opportunities for the host club. "It's tempting to try to bring in as many things from the outside, especially if it's a charity outing," says Erin Smith, Director of Club Corp.'s Pittsburgh Society, "But you have to remember that the local club needs to make money on its products or dining room." Giving the club the chance to provide other services or products profitably is as important to them as the opportunity to show off its facilities. BG

Awards & Contracts

Burchick Construction was awarded a contract for Phase 1 of the Washington Hospital Expansion. The $3 million job involves a new parking deck and site work for the later phase of the $57 million addition. Valentour English Bodnar & Howell are the architects.

Elmhurst Corp. selected Burchick Construction as contractor for the Bechtel Office at 135 Jamison Lane in Monroeville. The work involves a 54,000 square foot addition and 124,000 square feet of renovation. Desmone & Associates is the architect for the $10.5 million project.

Mosites Construction was awarded an $8 million contract from the Pennsylvania Turnpike Commission for the M-19 Mainline Toll Facility on the Mon-Fayette Expressway in Redstone Township, Fayette County.

St. Killian's Catholic Church selected Mosites Construction to be the contractor for the new $12 million Parish Center, to be built at the corner of Route 228 and Franklin Road in Cranberry Township. The Parish Center is a 67,000 square foot facility designed by L. Robert Kimball's Pittsburgh office.

Mosites Construction has also started work on renovations to Robert Morris University's Nicholson Center in Moon Township. The $500,000 project involves renovations to 6.500 square feet of administrative office. Rothschild Doyno Architects designed the project.

Mitsubishi Electric Power Products Inc. awarded a contract to Landau Building Company for the renovation to another building Mitsubishi acquired in Thorn Hill Industrial Park and a 20,000 square foot addition to their existing factory. In 2002, Landau constructed an additional warehouse and the new headquarters of Mitsubishi Electric Power Products Inc. of Cranberry Township, PA.

Landau Building Company was recently awarded a $1.5 million contract from West Virginia University for construction of the WVU Law School Abatement project. This project includes the renovation of four classrooms and the courtroom. Construction began May 14, 2007 and will be completed in August. Landau was also awarded a $1.2 million contract from Fairmont State University for the renovation of the Inner Campus Center.

TEDCO Construction was awarded a contract for work at the Engineering Science Building at West Virginia University's Evansdale campus. Alpha Associates designed the $12 million project. TEDCO is also the contractor for a $2 million fit-out for the Bright Horizons Childcare Center at the South Side Works. The 8,089 square foot center will serve the child day care needs of the employees at the new American Eagle offices.

Massaro Corporation has been awarded $1 million renovations to Duquesne University's St. Martin Hall, designed by WTW Architects, as well as UPMC's John P. Murtha Regional Cancer Center in Johnstown, worth $1.9 million, designed by Burt Hill. Massaro Corporation will also be upgrading Point Park University's Playhouse Mechanical and renovations to the GRW Theater. Additional work awarded at the University of Pittsburgh includes Hillman Library Plaza renovations, designed by Celli-Flynn Brennan and Sutherland Hall Phase I renovations designed by WTW Architects, both projects combined are valued at $3 million.

Massaro Corporation broke ground on Thursday, May 10 for Phase II of the Residential Revival project for Indiana University of Pennsylvania (IUP), part of a $250 million project, the largest higher education housing project in the United States. This multi-year, multi-phase plan includes the replacement or renovation of 15 residence halls. Phase I, when completed mid-August, will provide housing for 734 students. Phase II provides space for approximately 1,094 students and construction is expected to be complete mid-August, 2008. Phase III and Phase IV are still in the planning process. The buildings were designed by WTW Architects of Pittsburgh and developed by Allen & O'Hara Development Co, LLC of Memphis.

A. Martini & Company was the successful contractor on Carnegie Mellon's INI A Level Improvements project. The work involves renovations to 4,350 square feet. Quad 3 Group is the architect.

US Airways selected Mascaro Construction Company, LP to provide preconstruction and construction services for the new $15 million Flight Operations Center, to be built on Ewing Road in Moon Township. Construction of the 57,000 square foot facility will begin in August 2007, with occupancy slated for October 2008. L. Robert Kimball & Associates is the architect.

Volpatt Construction has begun construction on renovations to the William Pitt Student Union at the University of Pittsburgh. Moshier Studio is the architect for the $2.1 million project. Volpatt was also the successful contractor for the Eberly Library at Waynesburg College. The $850,000 project involves 3,000 square feet of new construction. Valentour English Bodnar & Howell are the architects.

Dick Corporation's Ohio Regional Office was selected to provide Construction Management Services to the Columbus Regional Airport Authority. The Authority has an aggressive capital improvement plan that includes improvements to Port Columbus Airport, Rickenbacker Airport, and Bolton Airport. The improvement plan earmarks $900 million in spending over a ten-year period, with $400 million in projects planned for the next five years. Dick Corporation has subcontracted with H.K.I. and Prime Engineering & Architecture to provide any architectural services required.

Dick Corporation was selected to provide construction services for the Grand at Diamond Beach condominium project in Cape May, NJ. The $100 million project, which got underway in March 2007, is a 12-story, 125-unit luxury condominium, built in conjunction with Baumgardner Construction. The architect is Breman Beer Gorman Architects.

John Deklewa & Sons was awarded the Angio Bi-Plane Renovations project at Allegheny General Hospital. Valentour English Bodnar & Howell are the architects for the $380,000 project, which involves 1,500 square feet of renovation.

Rycon Construction has started construction on a new CVS store in Cranberry Township in the new shopping plaza at the corner of Freedom and Haine School Roads. The store is 12,900 square feet. Work is also underway on the new Café at Carnegie Mellon University. The $1.2 million project involves renovations and new construction, and was designed by Springboard Architecture. Rycon was awarded a contract for the Faculty Pavilion at the New Children's Hospital in Bloomfield. The $14 million project involves major renovations to 137,000 square feet of the former St. Francis facility. Astorino is the architect, and Dick Corp. is the construction manager for the project.

University of Pittsburgh awarded Rycon Construction the 2007 phase of their annual Classroom Renovations program. JDBA Architects is the architect for the $500,000 project.

Marshall Township awarded Nello Construction the general construction contract for its new Public Works Building. Valentour English Bodnar & Howell are the architect for the $2.5 million, 20,000 square foot building. Nello was also awarded the $9.1 million general contract for the new Medical Examiner's Office & Morgue by Allegheny County. The $19,499,000 project involves renovations to the Penn Liberty Commons. Astorino is the architect for the project, which started in mid-June.

Jendoco Construction was the successful contractor on the renovation of the PNC Branch Bank at the Miracle Mile Shopping Center in Monroeville. The architect on the $300,000 project is The Design Alliance.

P. J. Dick Small Projects Group was awarded a contract for the demolition and reconstruction of the Chatham Plaza area located between the Chatham Centre buildings in Pittsburgh. The architect is Raymond Gusty of Fahringer McCarty Grey. Time Warner Cable Company has awarded P. J. Dick a CM-at risk contract for $3.9 million for a 27,000 square foot data center tenant fit out. The engineering firm contracted for this project is H. F. Lenz Co. Penn State University awarded P. J. Dick Inc. two general construction contracts totaling $1.2 million for both the renovation of the apartments located in Simmons and McElwain Halls, and the modification and installation of fire protection measures in four dormitories that make up the South Halls area of the main campus in State College.

F. J. Busse Co. was selected by Elmhurst Corp. to do tenant improvements for ADI Honeywell at the Airside Business Park in Moon Township. The project involves 9,068 square feet of space. IDG is the architect.

University of Pittsburgh awarded Poerio Inc. the contract for renovations related to sprinkler replacement at the Cathedral of Learning in Oakland. Construction has started on the $600,000 project. BG

Faces & New Places

Bill J. Hinton of McMurray has joined the Nello Construction staff as Director of Marketing. He is a graduate of Miami University of Ohio with a Bachelors Degree of Arts & Speech Communications.

Melissa Cox of Canonsburg has joined Nello Construction as an Estimator. She is a graduate of Ohio State with a Bachelors Degree in Architecture

Mascaro Construction announces the appointment of John C. (Jack) Mascaro to Chairman and the promotion of John C. Mascaro, Jr. to the position of president and CEO. John is responsible for the day-to-day management of the firm, and works closely with his brothers, Jeffrey and Michael, who focus on estimating / administration and business development, respectively. Jack remains active in the firm and provides guidance based on his 45 years in the industry.

Samuel M. Ward, PE and James F. Jett joined the on-site staff at the Western Maryland Health System's Willowbrook Hospital. As the on-site project manager, Sam brings 35 years of construction industry experience to the project. Jim is the quality control manager for the project and has more than 30 years in the industry, of which the last 12 have specialized in quality.

Michael P. Renna became a member of the Mascaro build with the best team in May. He is a graduate of the University of Pittsburgh with a degree in Civil and Environmental Engineering. Before joining Mascaro, he was the on-site project manager for the $63 million renovation of the William S. Moorhead Federal Building.

Raudenbush Engineering, Inc., headquartered in Middletown, Pennsylvania, recently opened a branch office in Pittsburgh. Incorporated in 1999, Raudenbush Engineering, Inc. is a full-service engineering firm providing site planning and land development, structural engineering, surveying, and geotechnical engineering. The firm supports both the private and public markets. The Pittsburgh office is managed by Thomas Ali, and has eleven people working there. More information on Raudenbush Engineering, Inc. can be found on their website at www.raudeng.com.

Duggan Rhodes Group has opened an office servicing Virginia, Maryland and Metropolitan Washington D. C. in Falls Church, VA. The new location is 7700 Leesburg Pike, Suite 314, Falls Church VA 22043. Duggan Rhodes Group are construction consultants based in downtown Pittsburgh, specializing in construction claims, project control services and expert witness testimony.

Keith E. Smith joins Zambrano Corporation as Vice-President of Operations in control of overseeing the daily operations of the project managers, estimators, superintendents, field operations, and field labor. Keith has more than 32 years of experience in construction, and has been involved in projects ranging from $12 million to $235 million.

Evan Hoover joins Zambrano Corporation as Senior Estimator. With over 22 years in the construction industry, Evan has experience in both estimating and project management, ranging from smaller to larger projects. Evan is a Professional Engineer, Certified Quality Control Manager for the U.S. Army of Engineers and OSHA Certified.

Karen M. Moore joins Zambrano Corporation as Project Coordinator. With over 25 years of experience in the construction industry, Karen has worked in management, project management, estimating as well as with field personnel for some of Pittsburgh's leading General Contractors.

Bradley Wolf has joined Navigant Consulting as an

Associate Director in the Construction Practice. Mr. Wolf is a registered Professional Engineer with 30 years of heavy industrial experience in the metals, power and petroleum sectors. He has extensive experience in contract negotiations, project management, technology management, operations, process improvements, ISO Certification, union exposure and plant start-up. Mr. Wolf previously held executive positions for several companies, serving at times as owner, contractor and supplier. Mr. Wolf obtained his Bachelor of Science degree in metallurgical engineering from Lehigh University and he completed the Wharton Executive Development Program at the University of Pennsylvania. He currently serves on the Board of Directors of the Engineering Society of Western Pennsylvania.

Lori Alderman was named COO of the law firm Meyer Unkovic & Scott. Alderman was previously Director of Client Relations for the firm for nine years. She has a Bachelor of Arts degree in history from West Virginia University, and a Masters Degree from the University of Pittsburgh. Alderman also serves as Fundraising Co-Chair for Rebuilding Together Pittsburgh.

Massaro Corporation is pleased to welcome the following people to their team: Christopher J. Lasky, AIA, Director of Construction Management Services; Ryan Haught, Project Manager; and Jason Adams, Project Engineer. Two current employees have transitioned to other positions: Daniel Kiefer will now be Director of Sales and Marketing of Construction Management and Robert Chambers III, Business Development Representative.

Landau Building Company is pleased to announce that Deborah A. Zoppetti has joined the company as a Senior Project Manager. Deborah is originally from the Pittsburgh area. After over 24 years of experience in construction in New York and Eastern Pennsylvania, she has moved back home. Deborah has been a project manager and engineer on projects ranging from major medical center expansions to high rises in New York City. She holds a Bachelor of Science Degree in Architectural Engineering from Penn State University.

P.J. Dick Inc. welcomes Jeremy Fusaro as a Project Estimator who will be working at our main office in the Pittsburgh area. Mr. Fusaro has a Bachelor's degree in Mechanical Engineering and a Master's degree in Civil Engineering. BG

The Industry in the Community

Construction Legislative Council Dinner

On Thursday, May 3, the Construction Legislative Council (CLC) held its 32nd Annual Dinner. This special event has been held every year since 1976, bringing elected officials together with design and construction professionals for an evening of good food and fellowship.

Construction Legislative Council Chairman, Michel Sadaka with the Turnpike Commission CEO, Joe Brimmeier.

Sadaka and PA One Call System Director, Bill Kiger.

John Busse, Pres. of F. J. Busse Co. (left) and David Raves, of Maiello Brungo & Maiello, at the CLC Dinner.

The CLC is a multi-discipline coalition of 12 construction industry organizations, representing the interests of thousands of contractors, architects, engineers, owners and material suppliers from Western PA. Its primary purpose is to advance an informed dialogue with elected leaders and policy makers who will advance the economic and political interests of our industry. The CLC is made up of members of local chapters of American Concrete Pavement Association, American Institute of Architects, American Society of Civil Engineers, American Society of Highway Engineers, Constructors Association of Western PA, Ironworker Employers Association, Master Builders' Association, Mechanical Contractors Association, National Association of Industrial and Office Properties, PA Society of Professional Engineers, PA Utility Contractors Association, and the Pittsburgh Builders Exchange.

This year's dinner honored Bill Kiger, PA One Call System Executive Director, with its Community Service Award; and Joe Brimmeier, CEO of the Turnpike Commission, with its Community Leadership Award.

Carpenters Announce Winning Team for their Annual Contest

On Friday, May 11, 2007, the Greater PA Regional Council of Carpenters held their 6th Annual

Carpenter's Design/Build Contest winners (left-to-right) Jonathon Eggert, Jen Wisbon and Richard Clark

Design/Build Contest. Each year the Carpenters hold the competition in partnerships with the Pittsburgh's Young Architects Forum and the Master Builders' Association of Western Pennsylvania.

The Design/Build Contest randomly pairs one carpenter apprentice, one young architect and one contractor to construct a project on site during the day of the contest – May 11, from 7:00 a.m. to 4:00 p.m. This year's theme was to construct a playhouse.

This year's winning project team is Richard Clark of Carpenters Local #462; Jonathan Eggert of Edge Studios; and Jen Wisbon of Allegheny Construction Group.

Rebuilding Together Pittsburgh Celebrates Rebuilding Day 2007

On April 28 Rebuilding Together Pittsburgh (RTP) held its annual work day, putting 950 volunteers into houses all around the city making vital repairs to the homes of low-income, elderly and disabled families who cannot make the repairs themselves.

(Left-to-right) Tony Ceoffe of Lawrenceville United, Rep. James Ferlo, Ed Friel, RTP Board Pres., Len Bodack, Pittsburgh Councilman, Pittsburgh Mayor Luke Ravenstahl,Rep. Don Walko, and Kate Trimble, Exec. Director of Lawrenceville Corp.

This year RTP received over 400 individual applications for consideration of work. An RTP committee member reviewed each application, and each home was fully inspected by a volunteer representing the American Society of Home Inspectors to develop a scope of work.

RTP volunteers Kathy Zarisnak (center) of the Builders Guild, with husband Frank and daughter Erin.

Homeowner Mary Sullivan (front, in blue) is surrounded by (left to right) Jim Frantz and Dan Bell of TEDCO Construction, Todd Havekotte, AIA house sponsor, Erin Senior of National City, and Chris Burns, TEDCO

Each applicant also received a review from an occupational therapist to determine modifications that were appropriate to the resident's age.

More than $440,000 worth of renovations were installed, repairing 29 homes. In addition a community center and two community parks in Lawrenceville were upgraded. Even before the actual Rebuilding Day 21 homes were given emergency repairs, including nine new roofs, eight new electrical services, and three homes that were discovered to have life-threatening gas leaks.

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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

Healthcare Means More Jobs and More Construction for Our Region

By Jack Ramage

I'm part of a generation that seems to make a huge impact on our society at every stage of our lives. We Baby Boomers have impacted the economy because of our size and wealth, and because we have been willing to spend a lot of our money through our adulthood. With our retirement looming over the next twenty years, it seems that we're about to heavily influence how healthcare is delivered and paid for too.

> ....it's **important to pay attention** to what the state and federal government are doing about healthcare costs, since local jobs may **depend** on their **actions.**

That's important here in Western PA because the healthcare business is a big part of the region's economic engine. Right now there is a boom in healthcare construction as two new hospitals are under construction, at least one other is being planned, and several major expansions are about to get underway. There is also renewed life in the senior living market, with one huge project, Providence Point, getting underway in the south hills.

Pittsburgh's healthcare industry has always been important to our region's livelihood, but in recent years healthcare-related businesses have been even more vital. Over 7,000 new jobs were created in healthcare in Greater Pittsburgh in the first half of the decade. These jobs pay higher than the average wage, and many are involved in the research and new healthcare technologies that will be a big part of our future economy.

Our region has always produced breakthrough medicines and vaccines, state-of-the-art surgical procedures, and cutting-edge research. The construction that is going on now will provide first class facilities for the breakthroughs to come. Since the start of 2006, work has been underway on what will eventually be more than 2.5 million square feet of new hospital space and almost 1 million square feet of new senior living. Those projects will require thousands of construction jobs, employ hundreds of architects and engineers, and create more permanent jobs. The work at these great medical facilities, and the medical and bio-medical research being done there will help ensure the continued growth and prosperity of Western PA. As taxpayers, we who live in Western PA must remember that the healthcare system is still struggling with how all this medical care will be reimbursed. A region that is dependent on healthcare as an economic force is more vulnerable to cuts in Medicare and Medicaid. Even if you are not retired or receiving aid, it's important to pay attention to what the state and federal government are doing about healthcare costs, since local jobs may depend on their actions.

Experts say that one dollar out of every six dollars spent in the next decade will go to healthcare of some form. That's a big burden and a big opportunity. Here in Pittsburgh, our hospital systems and healthcare providers are planning for their role in our economy by pushing forward with new technology and concepts, and by expanding and building new facilities.

And that's good, because my generation's going to need them.

Jack Ramage is Executive Director of the Master Builders' Association of Western PA